VIENNA, AUSTRIA

APRIL 14-16, 2020

2020 WEI

INTERNATIONAL

ACADEMIC

CONFERENCE PROCEEDINGS

BUSINESS & ECONOMICS

BY THE WEI ISSN 2167-3179 (ONLINE) USA

TABLE OF CONTENT

An Examination of the impact of Job CHARACTERISTICS on work engagement: Eveidence from jordan

Ahmad Nasser Abuzaid
Business Administration department, School of Business, Mutah University, Jordan

Abstract. Scholars are still investigating the factors that create the work engagement, and improve its level. The topic of work engagement has obtained enormous interest from scholars in the field of management because of its potential linkage to a wide range of positive outcomes at individual and organizational level. Therefore, the purpose of this paper was to investigate the effects of job characteristics (skill variety, task identity, task significance, autonomy and feedback) on work engagement. To test the hypotheses, data were collected from 112 employees working at textile companies in Jordan. The proposed effects were examined using multiple linear regression. Results of hypothesis testing showed that all components of job characteristics model positively influence work engagement. The findings of this study, therefore, help HR departments to enhance work engagement by increasing the meaning of work through redesign jobs using job characteristics model.

Keywords: Job Characteristics; Work Engagement; Textile Companies; Jordan.

Introduction

The topic of work engagement has obtained enormous interest from scholars in the field of management because of its potential linkage to a wide range of positive outcomes at individual and organizational level (Karatepe et al., 2019). Several studies reported that work engagement leads to reducing turnover rates and employees intention to leave their companies (Gupta & Shaheen, 2017), improving profitability, production and work productivity levels (Okazaki et al., 2019), increasing organizational commitment level (Jordan, 216; Barnes & Collier, 2013; Breevaart et al., 2014), increasing job performance, job satisfaction, and overall organizational performance level (Suhartanto & Brien, 2018), enhancing innovative behavior among employees (Yi-Xuan et al., 2019), and creating the sense of organizational citizenship behavior (Yin, 2018). Many scholars have examined different approaches and methods such as a job characteristics model in order to help companies create a work engagement for achieving these positive outcomes and thus improving the overall work environment (Agarwal, 2018).

Despite the extensive literature regarding the subject of work engagement, many scholars recently called to investigate the factors influencing work engagement (Karatepe et al., 2019). Edwards-Dandridge (2019) confirmed that work engagement represents an important aspect requiring further investigation, as many factors drive or disrupt the progress of work engagement.

The results of this study may encourage companies to being aware of the importance of the work engagement. Moreover, the study results will help companies' human resources specialists on whether or not it is important to concentrate on using job characteristics and redesigning of jobs for increasing the level of work engagement.

Based on the previous discussion the present study tries to achieve the following objectives:

- **First;** Identifying the level of work engagement in Jordanian textile companies from their employees' perspective.
- **Second;** Providing empirical evidence regarding the relationships among job characteristics and work engagement.

Theoretical Framework

2.1 Job Characteristics

The theoretical framework of job characteristics model has been introduced by Hackman and Oldham in 1976. The model was extensively employed in the previous literature. The proposed model has identified a set of core job

characteristics that influences the employees' behaviors and leads to several positive outcomes such as increasing employee motivation, quality of performance, job satisfaction, and decreasing job turnover rates. Hackman and Oldham (1976) identified five job characteristics in the model: skill variety, task identity, autonomy, task significance, and autonomy.

Skill variety: is the degree to which the job requires a number of different activities, and refers to the diversity of skills and talents required in the performance of a specific job. Hackman and Lawler (1971) clarify that skill variety challenges employees, and as a result will create a feeling that their work is meaningful.

Task identity: relates to fulfil a certain job. A task has a high level of identity when the employee executes the entire job from starting point to end point, and thus the whole process and result will be very clear to him that they performed a role during it. This beginning-to-end process allows for employees to perceive the change or effect they are personally making (Turner & Lawrence, 1965), and as a result employees can feel a strong sense of meaning in their work (Hackman & Lawler, 1971).

Task significance: is the degree to which the job has a significant effect on the lives of other individuals within the organization and/or society. Employees realize task significance when they realize that their efforts are in accordance with the organization goals and objectives. A high level of task significance helps for creating a deeper sense of meaning in one's work when he realized how his effort affects others (Hackman & Lawler, 1971).

Autonomy: defined as the degree to which the job offers necessary freedom, independence, and discretion to the individual in deciding work procedures and scheduling work. Hackman and Lawler (1971) considered autonomy as the most important job characteristics since it allows for employees to feel responsible for their work, Additionally, they explain that high autonomy allows employees to feel they 'own' the outcomes of their work.

Feedback: is the degree to which the employee obtains information that required completing the job, and information about the effectiveness of performance. Feedback reduces role ambiguity and enhances the task autonomy.

2.2 Work Engagement

Engagement includes a person's willingness to experience a sense of belonging, be a piece of something large, experience a meaningful journey and feel joy from knowing their contributions make an important difference (Haudan, 2008; Kouzes & Posner, 2003). According to (Nohria et al., 2008 P.80) "Engagement represents the energy, effort, and initiative employees bring to their jobs". The concept of work engagement was introduced by (Khan) in 1990. According to (Khan, 1990) work engagement was conceptualized as the harnessing of organizational members' selves to their work roles.

According to (Schaufeli et al., 2002) work engagement is "a positive, fulfilling, work related state that is characterized by vigor, dedication, and absorption." P.74

Schaufeli et al. (2002) identified three components of work engagement:

Vigor: refers to high levels of energy, mental resilience, desire to devote efforts in one's work, and perseverance even in hard situations.

Dedication: refers to feelings of strong identification with one's job which results in experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge.

Absorption: refers to enjoyable state of being immersed in one's job, where work hours passes in fast manner, and of being incapable to disconnect from the work.

2.3 Hypotheses Development

Saks (2019) reported that job characteristics are a strong predictor of work engagement. Albrecht et al (2018) found a positive relationship between job autonomy and work engagement. If employees see the job is more meaningful they will invest their energy in it (khan, 1991). Meaningful work may be one way to enhance employee engagement. Meaningful work is the value of a work goal in relation to an employee's own ideals or standards. Employee

engagement can develop when there is a good fit between the employee and the job, when employee expectations for the job are met (Cherubin 2012). Task significance and job skills variety related positively with work engagement (Marić et al. 2019). Job autonomy was found to be the best predictor of work engagement (Mustosmäki, 2013). Autonomy and feedback from work influence work engagement (Korsakienė et al., 2017). Wan et al. (2018) found a significant statically relationship among task significance, job feedback, skill variety and work engagement.

Motivate employees to fulfill a self actualization need and feedback regarding their performance makes them have a clear picture regarding their role and increase their importance and enhance their knowledge. Agarwal and Gupta (2018) found a positive relationship among job characteristics including task identity and work engagements. Task significance appeared to be the strongest driver of work engagement (Grobelna, 2019). Job autonomy increases work engagement (Malinowska et al., 2018). Task significant influences work engagement positively (Anuradha et al., 2017, Goštautaitė, 2015).

Work engagement was considered as a type of motivation. To enhance work engagement, Jobs should have high levels at least in one of the following characteristics: skill variety, task significance, and task identity, especially that those characteristics increase the meaningfulness of work, In addition to both autonomy and feedback (Robbins & Judge, 2017).

There are many factors contribute in building work engagement. One of them is job characteristics that make individual's work have a meaning (Wan et al., 2018). Another element is the degree of similarity between the person's values and the organization's values (Rich et al., 2010).

Based on the previous discussion, the study main hypothesis was formulated as follows:

H1: Job characteristics are positively affect work engagement at Jordanian textile companies.

Methodology and procedures

3.1 Research Design

A descriptive methodology was employed to build the study theoretical framework by reviewing the related literature. As well as, an analytical and field research using survey methodology was conducted to explain the relationship among job characteristics and work engagement.

3.2 Data collection procedures

Using a questionnaire available on paper, data were collected from target sample. Visits to the target companies were conducted to ask the employees to fill the questionnaire with assistance of human resource managers.

3.3 Measures

All items are measured on 1-5 Likert scale. The response categories for the scales range from 'Very little' to 'Very Much' and from 'Very little' to 'Very Accurate' for job characteristics, work engagement. Job characteristics were measured using Job Diagnostic Survey that introduced by Hackman and Oldham in 1974. Job Diagnostic Survey includes a 15- item scale for measuring the five core job characteristics. On the other hand, work engagement was measured using Utrecht Work Engagement Scale (UWES).

3.4 Instrument Reliability

The Cronbach alpha coefficient is the most frequently used measure to assess the reliability. The Cronbach alpha coefficients for questionnaire are listed in Table (1).

All of the questionnaire dimensions had Cronbach alpha coefficients of over 0.70, which indicate acceptable reliability.

Table (1) Cronbach alpha coefficients of questionnaire dimensions

Measure	N of Items	Cronbach's Alpha
Job Characteristics	15	.888
Work Engagement	17	.893

3.5 Sample Description

The demographic data was reported on the demographic section of the questionnaire developed for this study. The respondents were asked to provide information regarding their age, gender, total years of experience, and their position in the company. Table (2) presents the frequencies of respondents' demographic variables.

Table (2) The frequencies of respondents' demographic variables

Demographic Variables	Categories	Frequency	Percent
Gender	Male	93	83.0
	Female	19	17.0
Age	From 18 to less than 28	36	32.2
	From 28 to less than 38	53	47.3
	From 38 to less than 48	15	13.4
	48 and above	8	7.1
Experience	Less than 5 years	32	28.6
	5 to less than 10 years	56	50.0
	10 years to less than 15 years	18	16.0
	More than 15 years	6	5.4
Position	Manager	14	12.5
	Head of Division	18	16.0
	Supervisor	31	27.7
	Employee	49	43.8

Data processing and analysis

Data analysis was conducted using SPSS 21.0. To test the study hypotheses, a multiple regression was performed to test the direct impact of independent variable on dependent variable.

4.1 Descriptive Statistics

Means and standard deviations of all the dimensions in the study questionnaire are presented in Tables (3 & 4).

Table (3) Means and standard deviations of the Job Characteristics Dimensions

Dimension	Mean	St. D
Autonomy	3.36	.932
Task Identity	3.87	.892
Skills Variety	3.74	.879
Task Significance	3.82	.960
Feedback	3.59	.902

The results in table (3) show that the Jordanian textile companies are interested in task identity, skill variety, and task significance because the nature of their products, while they pay less attention on autonomy and job based feedback.

Table (4) Means and standard deviations of the Work Engagement Dimensions

Dimension	Mean	St. D
Vigor	3.76	.903
Dedication	3.77	.893
Absorption	3.73	.910
Work Engagement	3.75	.902

The results in table (4) show that the level of work engagement of Jordanian textile companies employees is high.

4.2 Hypotheses Testing

A multiple linear regression analysis assumes that the input variables for the regression model are approximately normally distributed and there is no Multicollinearity problem among independent variables. A Kolmogorov-Smirnov Test for normality was done in order to investigate the data distribution. In addition, a Collinearity Analysis including VIF and Tolerance tests was done in order to ensure there is no a Multicollinearity problem.

The Kolmogorov-Smirnov Test statistics are presented in table (5), indicating that job characteristics (p= .502) and work engagement (p= .132) were normally distributed. The Collinearity statistics are presented in table (6), indicating that the values of VIF less than 3 and the values of Tolerance more than .50, thus the Multicollinearity problem does not exist.

Table (5) One-Sample Kolmogorov-Smirnov Test

Measure	N	Kolmogorov-Smirnov Z	Sig.
Job Characteristics	112	.826	.502
Work Engagement	112	.540	.132

Table (6) Collinearity Statistics

Independent Variables	Tolerance	VIF
Skills Variety	.512	2.707
Task Significance	.630	2.032
Task Identity	.644	1.554
Autonomy	.547	1.827
Feedback	.528	1.893

Based on the above results, a multiple linear regression test was done in order to investigate the study hypotheses.

4.3 Tests of the Hypotheses

As shown from tables (7 & 8) the results of multiple linear regression demonstrated that about 86.8 % of the variation in work engagement is explained by job characteristics (R^2 = .868). In addition, the results shown that the regression model is significant, because the calculated value of "F" statistic (F=139.87, α = 0.000) exceeds the tabular value. And this value is statistically significant at (α = 0.05).

As seen from table (9) the results indicated that skills variety (t = 4.774, α = .000), task significance (t = 5.141, α = .000), task identity (t = 3.093, α = .003), autonomy (t = 3.253, α = .002), and feedback (t = 2.696, α = .008), have a significant impact on work engagement because the calculated t-values of the coefficients exceeds the critical tabular value of 1.96 at (α = 0.05) and beta coefficients are statistically significant. Based on these results the study hypotheses were supported.

Table (7) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.932(a)	.868	.862	.34624

a Predictors: (Constant), Skill Variety, Task Significance, Task Identity, Autonomy, Feedback

Table (8) ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83.492	5	16.698	139.287	.000(a)
	Residual	12.708	106	.120		
	Total	96.199	111			

a Predictors: (Constant), Skill Variety, Task Significance, Task Identity, Autonomy, Feedback

b Dependent Variable: Work Engagement

Table (9) Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	.884	.249		3.553	.001
	Skills Variety	.382	.080	.366	4.774	.000
	Task Significance	.319	.062	.316	5.141	.000
	Task Identity	.217	.070	.136	3.093	.003
	Autonomy	.180	.055	.155	3.253	.002
	Feedback	.150	.056	.131	2.696	.008

a Dependent Variable: Work Engagement

4.4 Results Discussion

The study results found that job characteristics have a positive effect on work engagement. Job characteristics provide a meaningful work into individuals. If individuals perceive the work is more meaningful they will devote their energy in it (khan, 1991). Thus, meaningful work is considered as one of the most popular way to improve

work engagement. Creating a good fit between individuals and their work, and making the job meets the individuals' expectations is another way through which job characteristics can contribute to improve work engagement (Cherubin, 2012).

The present study results are homogeneous with those of previous studies like (Saks, 2019; Wan et al., 2018).

Recommendations

To enhance work engagement, HR departments should take into consideration Jobs should have high levels at least in one of the following characteristics: skill variety, task significance, and task identity, especially that those characteristics increase the meaningfulness of work, In addition to both autonomy and feedback.

Conclusion

Work Engagement exemplifies an important aspect calling more examination, as many factors accelerate or diminish the progress of work engagement. In addition, there are a small number of studies have examined the model of job characteristics in diverse contexts and cultures, and the Arabian context almost does not exist in these studies. Therefore, the present study came to meet the scholars call for more investigation on the both topics, where the job characteristics model was employed in the Jordanian context to identify its effect on work engagement.

The results of present study provide new evidence regarding the positive role of job characteristics in improving the work engagement.

References

Agarwal, U. A., & Gupta, V. (2018). Relationships between job characteristics, work engagement, conscientiousness and managers' turnover intentions: A moderated-mediation analysis. *Personnel Review*, 47 (2), 353-377.

Albrecht, S., Breidahl, E., Marty, A. (2018). Organizational resources, organizational engagement climate, and employee engagement. *Career Development International*, 23(1), 67-85.

Anuradha, M. V., Lakshmi, R. S., & Ghuman, S. (2017). An Assessment of the Influence of the Psychological Consequences of Task Significance on Employee Engagement and Turnover Intentions. *South Asian Journal of Management*, 24 (3), 62-87.

Barnes, D. C., & Collier, J. E. (2013). Investigating work engagement in the service environment. *Journal of Services Marketing*, 27(6), 485-499.

Breevaart, K., Bakker, A., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology*, 87, 138-157.

Cherubin, G. L. (2012). Perceived Organizational Support and Engagement. Master thesis, United States: Nyack College.

Edwards-Dandridge, Y. (2019). Work Engagement, Job Satisfaction, and Nurse Turnover Intention. PhD's Thesis, United States: Walden University.

Goštautaitė, B., & Buciuniene, I. (2015). Work engagement during life-span: The role of interaction outside the organization and task significance. *Journal of Vocational Behavior***,** 89 (1), 109119.

Grobelna, A. (2019). Effects of individual and job characteristics on hotel contact employees' work engagement and their performance outcomes. *International Journal of Contemporary Hospitality Management*, 31 (1), 349-369.

Gupta, M., & Shaheen, M. (2017). Impact of Work Engagement on Turnover Intention: Moderation by Psychological Capital in India. *Business: Theory and Practice*, 18, 136-143.

Hackman, J. R., & Oldham, G. R. (1974). The Job Diagnostic Survey: An Instrument For Tue Diagnosis Of Jobs And The evaluation Of Job Redesign Projects: Technical Report No. 4. Yale University, United States.

Haudan, J. (2008). The art of engagement: Bridging the gap between people and possibilities. New York, NY: McGraw-Hill.

Jordan, D. E. (2016). Examining the Relationship between Perceived Leadership Behaviors and Employee Engagement among Part-Time Retail Employees. PhD's Thesis, United States: Faculty of The Chicago School of Professional Psychology.

Karatepe, O. M., Ozturk, A., & Taegoo, T. K. (2019). The effects of Non-work and personal resources on frontline bank employees' work engagement and critical job outcomes. *The International Journal of Bank Marketing*, 37 (3), 858-879.

Korsakienė, R., Raišienė, A. G., & Bužavaitė, M. (2017). Work Engagement Of Older Employees: Do Employee And Work-Related Factors Matter?. *Economics & Sociology*, 10 (4), 151-161.

Kouzes, J. M., & Posner, B. Z. (2003). Credibility: How leaders gain it and lose it, why people demand it. San Francisco, CA: Jossey-Bass.

Malinowska, D., Tokarz, A., & Wardzichowska, A. (2018). Job Autonomy In Relation To Work Engagement And Work holism: Mediation Of Autonomous And Controlled Work Motivation. *International Journal of Occupational Medicine and Environmental Health*, 31 (4) 445-458.

Marić, M., Hernaus, T., Vujčić, M. T., & Černe, M. (2019). Job Characteristics And Organizational Citizenship Behavior: A Multisource Study On The Role Of Work Engagement. *Drustvena Istrazivanja*, 28 (1), 25-45.

Mustosmäki, A., Anttila, T., & Oinas, T. (2013). Engaged or Not? A Comparative Study on Factors Inducing Work Engagement in Call Center and Service Sector Work. *Nordic Journal of Working Life Studies*, 3(1), 49-67.

Nohria, N., Groysberg, B., & Lee, L. E. (2008). *Employee motivation: a powerful new model. Harvard Business Review*,86(7-8), 78-84.

Okazaki, E., Nishi, D., Susukida, R., Inoue, A., Shimazu, A., & Tsutsumi, A. (2019). Association between working hours, work engagement, and work productivity in employees: A cross-sectional study of the Japanese Study of Health, Occupation, and Psychosocial Factors Relates Equity. *Journal of Occupational Health*, 61 (2), 1-13.

Rich, B. L., LePine, J. A., & Crawford, E. R. (2010). Job Engagement: Antecedents and Effects on Job Performance. *Academy of Management Journal*, 53 (3), 617–635.

Robbins, S. P., & Judge, T. (2017). Organizational behavior (16th ed). Upper Saddle River, N.J: Pearson/Prentice Hall.

Saks, A. M. (2019). Antecedents and consequences of employee engagement revisited. *Journal of Organizational Effectiveness*, 6 (1), 19-38.

Schaufeli, W., & Bakker, A. (2003). Utrecht work engagement scale: Preliminary manual. Utrecht: Occupational Health Psychology Unit. Utrecht University, Netherlands.

Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92.

Suhartanto, D., & Brien, A. (2018). Multidimensional engagement and store performance. *International Journal of Productivity and Performance Management*, 67 (5), 809-824.

Wan, Q., Zhou, W., Li, Z., & Shang, S. (2018). Associations of Organizational Justice and Job Characteristics with Work Engagement Among Nurses in Hospitals in China. *Research in Nursing & Health*, 41 (6), 555-562.

Yin, N. (2018). The influencing outcomes of job engagement: an interpretation from the social exchange theory. *International Journal of Productivity and Performance Management*, 67 (5), 873-889.

Identification And Remediation Of Secondary School Students'Learning Disabilities In Algebra

Eunice Nonye Anumudu[1], U. N. V. Agwagah[2]
Department of Integrated Science, Federal College of Education, Eha-Amufu, Enugu State Nigeria
Department of Science Education, Faculty of Education, University of Nigeria Nsukka

ABSTRACT
The purpose of the study was to identify and remediate students' learning disabilities in mathematics. Specifically, the study sought to identify the proportion of students having learning disabilities in algebra and determine the relative efficacies of remediation through direct instruction in rehabilitating their learning abilities and achievement in algebra. Three research questions were posed and two null hypotheses were formulated and tested at 0.05% significant level to guide the study. The study adopted a survey and one group pretest-posttest design. Four (4) co-educational junior secondary schools out of 28 government owned secondary schools in the Local Government were randomly selected and used for the study. A 30-item Algebraic Diagnostic Test (ADT) and a 25-item Algebraic Achievement Test (AAT) were the instruments used for data collection from JSS11 students in Nsukka Local Government area of Enugu state, Nigeria. The reliability coefficients of ADT and AAT established through Pearson's product moment correlation coefficient (r) method were 0.91 and 0.88 respectively. The data collected were analyzed using percentages, means, standard deviations and t- test statistic. The major findings of the study were that (1) 102 out of 309 students about 33% of the students had learning disabilities in algebra (2) the remediation approach was effective in rehabilitating students having algebraic learning disability. It was recommended, among other things, that mathematics teachers should embrace remediation strategies.

Key words: Identification, Remediation, Learning disabilities, Algebra

The impact of Basel III Capital Regulation on Profitability: A Hybrid Model.

Nadim AlFouhailia*, Frédéric Gautiera

aUniversity Paris 1 Pantheon-Sorbonne, Sorbonne Business School, Finance Department Paris France

Abstract :

This research examined the impact of Basel III capital regulation (BCR) on profitability (P) using a sample of 25 commercial banks in Lebanon over the period 2012–2017. BCR is measured using the capital adequacy ratio (CAR) and the common equity tier one ratio (CET1 ratio), P is measured using 2 ratios: ROAA and ROAE. To analyze the data, we constructed a hybrid model based on 3 statistical approaches. First, we modeled the dual impact of BCR and P using probabilistic inference in the framework of Bayesian Belief Network formalism (BBN). Second, to highlight more about the correlation between BCR and P, we used Spearman correlation test as a nonparametric approach. Third, to study the simultaneous effect of BCR ratio on P we apply multivariate regression analysis. By analyzing the probabilistic inference for the first approach we concluded that there is an effect of BCR on P but when we investigated more if this effect is significance using the Spearman correlation test and the multivariate regression analysis, we concluded that that the impact of BCR on P is only founded between CAR and ROAA and this regression relationship is weak because only 24.3% of the changes in ROAA variance can be explained by CAR.

Keywords: Basel III capital regulation (BCR); Profitability (P); Bayesian belief network (BBN); capital adequacy ratio (CAR); common equity tier 1 ratio (CET1 ratio)

The Impact of Website Quality on Online Impulse Buying Behavior: Moderating Effects of Age and Price

Saeed M. Z. A. Tarabieh[1,2], Igna´ cio GIL-PECHUAN[3], Mohammed Ghassan AL-Obaidi[4] and Adel Ibrahim A H Al-Haidous[5]

[1]*School of Business, Mutah University, Jordan. Email: tarabieh@mutah.edu.jo*
[2]*Doctoral School, Communication and Cultural Industries, Universitat Politècnica de València, Spain. Email:sata6@doctor.upv.es*
[3]*Business Administration Department, Universitat Politècnica de València, Spain. Email: igil@doe.upv.es*
[4]*School of Business, Mutah University, Jordan. Email:Mohammed1994.ghassan@gmail.com*
[5]*School of Business, Mutah University, Jordan. Email: r_m_rasheed@hotmail.com*

Abstract
The focus of this research paper is to determine the relationship between website quality, online impulse buying behavior, age and price. The banking industry of Jordan was selected for the purpose of this study. The research hypotheses have been formed based on the theoretical background and theories. The sample of this research comprised of customers of Jordanian banks. The research methodology and the concluding remarks that are anticipated have also been presented.

Keywords: *Website Quality, Online Impulse Buying Behavior, Age and Price.*

1. Introduction

There have been significant technological developments in the last thirty years, commencing from the development of computers in the 1980s, followed by the introduction of the internet in the 1990s with different applications for people from distinct age groups and background (Baka, 2016). The start of the third millennium has seen the development of smart technology and artificial intelligence, which has generated new approaches on the way individuals communicate and perform transactions. This proved to be the defining moment, giving rise to novel ways of marketing and purchasing, and increasing the number of online users and transactions (Connolly et al., 2015).

Macik (2018) claimed while stressing this fact that the extraordinary increase in the field of e-commerce and e-marketing retail in the past twenty years across the globe has altered this activity as customers have showed greater readiness to adopt internet marketing and purchase. At the start, e-marketing and e-purchase adoption was complementary to the conventional means of purchase. Nonetheless, as a result of the benefits offered by e-purchase, a greater desire has been shown by the customers to use this type of marketing primarily for purchasing various goods and services. Hence, several companies are presently involved in developing a high website quality for marketing their products.
Wider varieties of opportunities and greater access to information are offered by e-stores having high website quality, which allows the consumer to perform a comparison of the offerings of sellers from all over the world (Al-alak & Tarabieh, 2011, Kim, 2002). Website quality causes impulse buying behavior to be influenced by various factors, and these may be distinct for every individual, depending on their age, sex, education, income and marital status. Hence, the variations in buying decisions and impulse consumer behavior of two individuals from distinct economic groups or education level can be easily discerned (Dawson & Kim, 2010).

The literature available on this area is insufficient. This research has focused on this relatively untapped area and studied four variables: Website quality, online impulse buying behavior, age and price. Through this paper, the researchers wanted to add to the literature of consumer behavior and e.marketing. Additionally, this research can help companies in formulating their marketing strategies by explaining the impacts of Website quality on online impulse buying behavior and the moderating effects of age and price.

2. Theoretical Background

2.1 Website Quality

Nowadays online customers are concerned about the website quality before visiting one. Website quality was explained by Rocha (2012) as "conformance to specified expectations of stakeholders. In another words, Hung et al (2015) described the similar concept as channels to recruit online potential consumers to achieve a sufficient order volume on goods or services at a discounted group price. Herrero and San Martin (2012) also shed light on this concept and indicated that online customers prefer to make purchase from a quality website having known to contain appropriate content.

Online purchasers deem website quality as very important when shopping on the net (Law & Cheung, 2006). It is imperative in this regard to maintain the quality of the website to encourage the customers to visit the website again and more frequently for shopping. This may strengthen the consumer confidence to the website and lead to remarkable rise in the Internet users (Tarabieh & Ahmad, 2015). In addition, website quality concept is considered to be one of the principal factors that help in retaining the customers and encouraging them to re-visit the site leading to customer loyalty towards the website. Numerous studies were conducted to shed light on the scope of website quality with the advancements in Internet usage all across the globe. However, these studies focused only on the association between website quality, status and repute of the website and personal experiences and failed to consider the functional factors such as the quality of information and ease of use (Chiou et al., 2010).

Pavlou et al (2007) showed that website quality concept plays a prominent role in the assessment of online business. This suggests that better and favorable sentiments in consumers can be cultivated and their perceptions about the associated risks can be improved if the website quality is evaluated to be superior. Moreover, they indicated that we can assess the performance of the retailers by the evaluation of consumers' perception regarding the quality of service provided by them. For instance, the performance of the retailers may be evaluated to be responsive, trustworthy, compassionate, and assuring for consumers. Moreover, the positive perceptions of consumers about the quality of service may positively influence the perceptions of the consumers about the risks that may be experienced in future dealings. Examples of such perceptions are timely delivery, safe delivery, correspondence of the product shown and delivered and others. These perceptions raise the buyers' concerns about risks associated with online shopping and pose a major challenge to the sellers (Tarabieh, Ahmad & Siron, 2015). Furthermore, there are many dimensions concerned with the quality of websites; however, only four dimensions will be considered in this study (Usefulness, Ease of use, Privacy and Security and Trust).

2.2 Online Impulse Buying Behavior

Subsequent to 1982 when researchers began to re-focus attention on impulse buying behavior, researchers began to investigate the behavioral dimensions of impulse buying. Most recently, researchers appear to agree that impulse buying involves a hedonic or affective component (Karbasivar & Yarahmadi, 2011). For instance, Rook (1987) reports accounts by consumers who felt the product 'calling' them, almost demanding they purchase it. This emphasis on the behavioral elements of impulse buying led to the definition of impulse as impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict. Also, impulse buying is prone to occur with diminished regard for its consequences (Karbasivar & Yarahmadi, 2011).

Marketers consider the impulse buying behavior as the significant indicator. The pattern of selection done by consumers in terms of products, brands and the like can be recognized through the impulse buying behavior of the consumer (Solomon, 1995). The definition for impulse buying can be "an unexpected yet usually influential and obstinate longing to purchase something right away" (Rook, 1987). Several researchers often relate impulsive purchasing with unplanned or unintended purchasing, and significantly an unplanned purchase is distinguished as impulsive (Rook, 1987; Rook & Fisher, 1995).

An obstinate, influential and unexpected longing which made a customer actually purchase something is called as online impulse purchase (Liu et al., 2013; Akram et al., 2017a). Many other factors also play a part in online impulse buying which is an unplanned purchasing decision. These factors are social shopping, perceived usefulness, hedonic motivations, urge to buy impulsively, utilitarian motivations, visual appeal information fit-to-task, adventure shopping, perceived enjoyment and idea shopping (Ozen & Engizek 2013; Xian et al., 2016; Akram et al., 2017).

It can also be explained as a business which engages a customer directly in purchasing and consuming services and products. It also involves the following decision-making processes which shape these actions. Researchers have come

up with different ideas and methods that will help to attain more systematic behavioral sciences in terms of prediction, comprehension and probably influence the behaviors of consumers more efficiently (Engel et al., 1986).

2.3 Age

Age is an important factor that affects the behavior of the buyer, occasionally people change with their needs and decisions turn to well-being in several different ways. Age carries changes in the way people live and with it, so their needs and people qualities are further affected, when people are young and energetic, they spend more on the needs of their lives from entertainment to codes of conduct, while looking at old people they are for the most part kept indoors; however, their medical costs may rise. Furthermore, Mahalakshmi (2019) stated that, in the age group of 30 years onwards category of people buys more impulsively electronic retailing. Like this, age gets one of the important statistical factors that affect buyer behavior and buying options (Kumar, R. 2014).

2.4 Price

Considering the factors that have an impact on the buyers' decision, price is the most significant consideration. Where price is the only factor that produces revenue and profits, while the other components are expenses (Kotler & Keller, 2006). A consumer assumes the price as the sum of money that has to be given to acquire the service/product (Zeithaml, 1988). Price is considered as an indicator to describe the level of quality signaling the traditional perception that "you get what you pay for" (Erickson & Johansson, 1985). A comparison between objective prices (price quoted by the present vendor) and reference prices (price quoted by other vendors) is made by the customers when they shop online and then an opinion is formed (Kim et al., 2012). As compared to quality, price is a more noticeable factor being an empirical signal (Yoon et. al, 2014). A low price (or reasonable price) provides a sustainable advantage to the hotels within their product markets in a competitive environment (Bojanic, 1996). Consumers normally look for different prices offered instead of a single price before making the targeted purchase.

3. Research Hypotheses:

In this study, online impulse buying behavior serving as dependent variable and the external variable website quality serving as independent variable while age and price serving as moderator variables. Therefore, hypotheses were developed to investigate relationships between online impulse buying behavior and these variables.

3.1 Website Quality & Online Impulse Buying Behavior

There are several past researches that aimed to reveal the association between impulsive online purchases and website quality. In this context, Hoffman and Novak (1996) stated that the probability of impulsive buying increases with the presentation of a classy and elegant interface. Likewise, Wolfinbarger and Gilly (2003) revealed the association between a classy website and escalated purchasing attitude of customers. Furthermore, it has been claimed by Turkyilmaz et al. (2015) that ease of use, entertainment and usefulness are three aspects of website quality that can impact positively on consumers' online impulse purchase. Thus, it was hypothesized by the researcher that:

H1: Website quality has significant impact on online impulse buying behavior

3.2 Age, Website Quality & Online Impulse Buying Behavior

The over-all internet experience and age had significant impact on buying goals and perceptions of mature consumers. According to Sorce et. al., (2005), while older online shoppers and the young shoppers are almost equivalent in the shopping behavior, they search for considerably fewer products as compared to the young individuals. In online searching behavior, more variance is justified by attitudinal factors. If the consumer had first searched for the product online, then age explained more variance in purchasing behavior. Hence, it was presumed by the researcher:

H2: Age has significant impact on online impulse buying behavior

H3: Age moderates the relationship between the website quality and online impulse buying behavior

3.3 Price, Website Quality & Online Impulse Buying Behavior

It was presented by Lien et al., (2015) that probability of hotel booking increases of consumers in Taiwan when they perceive that the hotel brand is appealing, the hotel price is reasonable, the hotel is trustworthy and the hotel will give good value against the price. The three crucial elements which have a direct impact on purchase intentions are perceived price, brand image and perceived value. Nevertheless, there is no influence of trust on purchase intentions. It was shown by Chiao-yun, (2010) that within the travel agency, the purchase price stability is enabled through the internet; nevertheless, it cannot be predicted that whether the customer will opt for the best offer in online shopping (Tarabieh, 2017). Moreover, the major determinant is the price which is reviewed several times while making a decision. Price stands to be the first as well as the last factor in the process of decision-making. Hence, it was hypothesized by the researcher that:

H4: price has significant impact on online impulse buying behavior
H5: Price moderates the relationship between website quality and online impulse buying behavior

4. Proposed Theoretical Model

The theoretical framework was built by the researcher to measure the phenomenon of the study, and this framework reflects the environment in which this study is conducted (Sekaran & Bougie, 2010). The theoretical framework was developed according to the literature review in general and theoretical and empirical assumptions as shown in Figure (1). Based on previous studies this model was designed to show the relationship between website quality, online impulse buying behavior, age and price (Akram et al. 2018; Verhagen & van-Dolen, 2011).

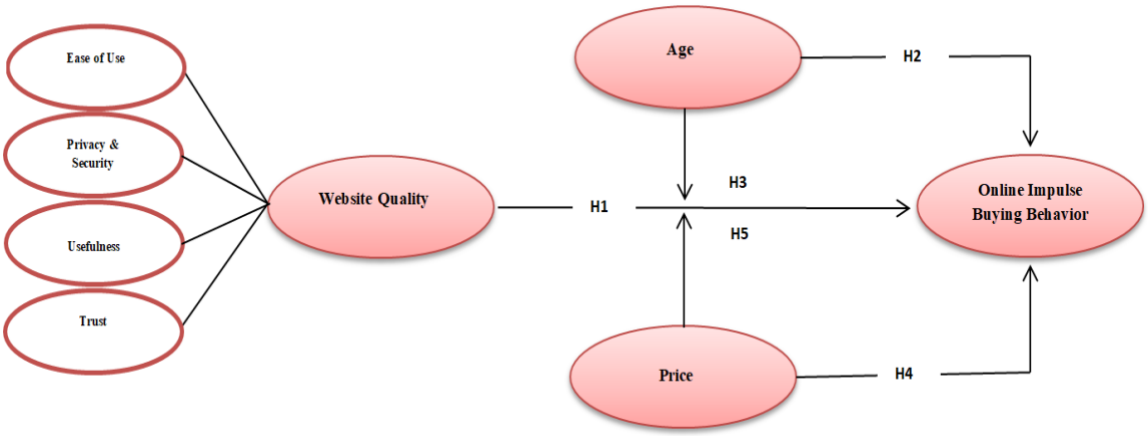


Figure 1: Proposed Theoretical Model

5. Proposed Methodology

5.1 Population

The target population of this study is the customers of Jordan hotels.

5.2 Data Collection Process

The process of distributing and collection of the questionnaires is a drop-off approach (Aaker, Kumar, Day, & Leone, 2010).

5.3 Analytical Method

Statistical Package for the Social Sciences (SPSS) version 22 and AMOS version 22 are used to analysis the data obtained from survey. Reliability of questionnaire items is analyzed using Cronbach's Alpha.

5.4 Hypotheses Testing

The last and most essential phase in the series of data analysis is the testing of the hypotheses. The most appropriate approaches for comprehensively testing of this model are structural equation modeling (SEM) and confirmatory factor analysis (CFA).

5.5 Expected Results

The key expected result of this theoretical research revolves around the statement that online impulse buying behavior is significantly affected by website quality. On the contrary, the effect of the sub-dimensions of website quality (usefulness, ease of use, privacy & security, and trust) on online impulse buying behavior varies. In addition, the relationship between website quality and online impulse buying is affected by age and price

References

Aaker, D., Kumar, V. and Days, G. (2004) Marketing Research, 8th ed., John Wiley & Sons, New York.

Akram, U., Hui, P., Khan, M. K., Saduzai, S. K., Akram, Z., & Bhati, M. H. (2017), "The plight of humanity: Online impulse shopping in China", Human Systems Management, Vol. 36 No.1, pp. 73-90.

Akram, U., Hui, P., Khan, M., Yan, C., & Akram, Z. (2018). Factors affecting online impulse buying: evidence from Chinese social commerce environment. Sustainability, 10(2), 352.

Al-alak, B. A., & Tarabieh, S. M. Z. A. (2011). Gaining competitive advantage and organizational performance through customer orientation, innovation differentiation and marketing differentiation. International Journal of Economics and Management Sciences, 1(5), 80-91

Baka, K. (2016). The becoming of user-generated reviews: looking at the past to understand the future of managing reputation in the travel sector. Tour. Manag. 53, 148–162.

Bojanic, D. C. (1996). Consumer perceptions of price, value and satisfaction in the hotel industry: an exploratory study. Journal of Hospitality and Leisure Marketing,4(1), 5e22.

Chiao-yun, Connie, change (2010) "How Price influences online consumer decision-making" Coventry University, Japanese Journal of Administrative science, vol.22, Non.3 (p, 245-254).

Chiou, W.C., Lin, C.C. & Perng, C. (2010), "A strategic framework for website evaluation based on are view of the literature from 1996-2006", Information and Management, Vol. 47 No. 5, pp. 282-290.

Connolly, S. Hanretty, C., Heap, S., & Street, J. (2015). What makes for prize-winning television, European Journal of Communication, 30 (3), 267-284.

Dawson, S. & Kim, M, (2010), "Cues on apparel web sites that trigger impulse purchases", Journal of Fashion Marketing and Management", Vol. 14 No. 2, pp. 230-246.

Engel.LP. Blackwell. R.D. & Miniard.P.W. (1986). Consumer Behavior, 5th ed. Dryden Press, Chicago. IL.

Erickson, G. M., & Johansson, J. K. (1985). The role of price in multi-attribute product evaluations. Journal of Consumer Research, 12(2), 195e199.

Herrero, A. & San Martin, H. (2012), "Developing and testing a global model to explain the adoption of websites by users in rural tourism accommodations", International Journal of Hospitality Management, Vol. 31 No. 4, pp. 1178-1186.

Hoffman, D. L. & T. P. Novak (1996) "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," Journal of Marketing (60) 3, pp. 50-68.

Hung, S., Cheng, M. & Hsieh, S. (2015), "Consumers' satisfaction with online group buying - an incentive strategy", International Journal of Retail & Distribution Management, Vol. 43 No. 2, pp. 167-82.

Karbasivar, A., & Yarahmadi, H. (2011). Evaluating effective factors on consumer impulse buying behavior. Asian Journal of Business Management Studies, 2(4), 174-181.

Kim, H.W., Xu, Y., & Gupta, S. (2012). Which is more important in Internet shopping, perceived price or trust? Electronic Commerce Research and Applications, 11(3), 241-252.

Kim, Y.K. (2002), "Consumer value: an application to mall and internet shopping", International Journal of Retail & Distribution Management, Vol. 30 No. 12, pp. 595-602.

Kotler, P. and Keller, K.L. (2006), "Marketing management"12Th Edition, Pearson Education, Inc., Upper Saddle River, New Jersey.

Kumar, R. (2014). Impact of Demographic Factors on Consumer Behavior-A Consumer Behavior Survey in Himachal Pradesh. Global Journal of Enterprise Information System, 6(2), 35-47.

Law, R. & Cheung, C. (2006), "A study of the perceived importance of the overall website quality of different classes of hotels", International Journal of Hospitality Management, Vol. 25 No. 3, pp. 525-553.

Lien, C. H., Wen, M. J., Huang, L. C., & Wu, K. L. (2015). Online hotel booking: The effects of brand image, price, trust and value on purchase intentions. Asia Pacific Management Review, 20(4), 210-218.

Liu, Y., Li, H. & Hu, F, (2013), "Website Attributes in Urging Online Impulse Purchase: An empirical Investigation on Consumer Perceptions", Decision Support Systems, Vol. 55 No. 3, pp. 829-837.

Macik, R. (2018). Payment-related obstacles experienced by young polish consumers in domestic and cross-border online shopping. 5th International Multidisciplinary Scientific Conference on Social Science and Arts SGEM. 497-504.

Mahalakshmi, P. (2019). Evaluating the Influence of Social Media on Impulsive Buying Behaviour in E-Tailing. Journal of the Gujarat Research Society, 91-101.

Ozen, H., & Engizek, N. (2013). Shopping online without thinking: being emotional or rational? Asia pacific journal of marketing and logistics, 26(1), 78-93.

Pavlou, P.A., Liang, H. and Xue, Y. (2007), "Understanding and mitigating uncertainty in online exchange relationships: a principal-agent perspective", MIS Quarterly, Vol. 31 No. 1, pp. 105-36.

Rocha, A. (2012), "Framework for a global quality evaluation of a website", Online Information Review, Vol. 36 No. 3, pp. 374-382.

Rook, D.W. & Fisher, R.J. (1995), "Normative influences on impulsive buying behavior", Journal of Consumer Research, Vol. 22, pp. 305-13.

Rook, D.W. (1987), "The buying impulse", Journal of Consumer Research, Vol. 14, pp. 189-99.

Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill-building approach (5th ed.). Haddington: John Wiley & Sons

Solomon, M.R. 1995. Consumer behavior: Buying, having and being. Upper Saddle River, NJ: Pearson/Prentice Hall

Sorce, P., Perotti, V., & Widrick, S. (2005). Attitude and age differences in online buying. International Journal of Retail & Distribution Management, 33(2), 122-132.

Tarabieh, S. M. (2017). The Synergistic Impact of Social Media and Traditional Media on Purchase Decisions: The Mediating Role of Brand Loyalty. International Review of Management and Marketing, 7(5), 51-62.

Tarabieh, S. M. Z. & Ahmad, Z. A. (2015). The impact of customer orientation and supplementary services in gaining competitive advantage and organizational performance in the Jordanian banking industry. International Review of Social Sciences, 3(2), 47-59.

Tarabieh, S. M., Ahmad, Z. A., & Siron, R. (2015). The synergistic impact of customer orientation and supplementary services on competitive advantage and organizational performance (pilot survey). International Review of Management and Business Research, 4(2), 484-498.

Turkyilmaz, C.A., Erdem, S. & Uslu, A. (2015), "The effects of personality traits and website quality on online impulse buying", Procedia-Social and Behavioral Sciences, Vol. 175, pp. 98-105.

Verhagen, T., & van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. Information & Management, 48(8), 320-327.

Wolfinbarger, M., & Gilly, M. C. (2003). eTailQ: dimensional zing, measuring and predicting entail quality. Journal of retailing, 79(3), 183-198.

Xiang, L., Zheng, X., Lee, M. K., & Zhao, D, (2016), "Exploring consumers' impulse buying behavior on social commerce platform: The role of par asocial interaction", International Journal of Information Management, Vol. 36 No. 3, pp. 333-347.

Yoon, S., Oh, S., Song, S., Kim, K. K., & Kim, Y. (2014). Higher quality or lower price? How value-increasing promotions affect retailer reputation via perceived value. Journal of Business Research, 67(10), 2088e2096.

Zeithaml, V. A. (1988), "Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence ", *Journal of Marketing*, pp.2-22.

The Potential of (Open) Corporate Foresight in Start-up Companies

Simon Dummel
University of Salzburg Business School
Sigmund-Haffner-Gasse 18, 5020 Salzburg, Austria

Abstract

With Corporate Foresight methods companies try to anticipate and shape the market needs of tomorrow in order to remain competitive. Moreover, newly founded companies often follow the Lean Start-up approach enabling strategic flexibility. This leads to the question of whether Corporate Foresight is superfluous for start-ups in practice, or respectively, is the term 'start-up' and its association with innovation in line with long-term future planning?
In general, it can be stated that there is a lack of conceptual and empirical explanations on Corporate Foresight. Especially in connection with start-ups, a major research gap has been identified. Therefore, this paper aims to discuss a first potential of (Open) Corporate Foresight in start-up companies and whether different approaches apply to them in the use of environmental detection measures.
Corporate Foresight Maturity Model created by Rohrbeck (2011) was applied to elaborate on organizational factors considered to promote potential value of Corporate Foresight in start-ups. Based on this view on value creation, further theoretical assessment derived from literature review has shown that Corporate Foresight can have a positive impact on the development of start-ups.
In general, findings imply that Corporate Foresight provides synergies in the areas of entrepreneurial opportunity detection and alertness, both in entrepreneurial Discovery Theory and Creation Theory. As an input for hypothesis generation or validation in the context of Lean Start-up, foresight approaches can be very impactful. Furthermore, to strengthen entrepreneurial traits such as hope and motivation, potential use of a foresight system was identified. Open approaches can lead to a more intensive partner integration into the development processes and support mechanisms that increase participation of stakeholder groups.
Keywords: Corporate Foresight, Open Foresight, Lean Start-up, Opportunity Recognition.

Introduction

During times of short product life cycles, increasing consumer demands and increasingly complex technologies the competitive pressure to which individual companies are exposed to is very high (Rohrbeck & Gemünden, 2011, p. 232). As a result, new interconnections and networks are emerging, which in turn entail the formation of new markets and business models (Chesbrough, 2006a, p. 17). In the course of that, many companies are faced with the task of asserting themselves against competition through innovative ideas (Gattringer & Strehl, 2014a, p. 1). A new approach of generating ideas is the systematic opening to the external business environment aiming for knowledge exchange. Company borders are opened in order to improve the company's ability to innovate through the active exchange of information with external sources, the concept behind 'Open Innovation' (Chesbrough, 2006a, p. 43). This type of innovation process is oriented towards medium-term goals with a focus on solving current challenges. A concrete vision of the future is not sufficiently considered.
However, in a dynamic environment, methods that shape forecasts of future developments and their risks can provide a competitive advantage (Suddendorf & Corballis, 2007, p. 299). Especially with unforeseen, radical changes, it is a challenge for enterprises to adjust corporate strategies (Rohrbeck, 2012, p. 448). Systems that prepare for these changes and enable reactions are required (Conway, 2008, p. 1). In corporate organizations, for the discipline of foreseeing the term 'Corporate Foresight' (CF) has been established (Daheim & Uerz, 2008, p. 321). Through methodological skills, companies try to anticipate and shape the needs of tomorrow (Burmeister, Neef & Beyers, 2004, p. 9). As part of the company's strategic planning, significant changes in the corporate environment can be discovered and appropriate answers may be given. Many authors emphasize the necessity of cooperation between different sectors of society and organizations of certain industries if change processes are to be successfully designed (Heger, 2015; Wilhelmer & Nagel, 2013, p. 19). In this context, the concept of 'Open Foresight' (OF) has developed (Daheim & Uerz, 2008; Miemis, Smart & Brigis, 2012). Similar to the Open Innovation concept, the aim is to externalize the generation of knowledge. The aim of cooperation with external information sources is to identify initial signals of developments in order to jointly develop visions of the future. Since this approach is still in its initial stage and only a few empirical data are available, it is not yet possible to make a well-founded statement about its practical application.

In general, CF practicing companies face challenges and holistic systems are still lacking (Rohrbeck, 2011, p. 177). But how do newly founded, not yet established companies deal with it? These 'start-ups' are being given a reputation as driving forces of an innovative economy (Vishnevskiy, Meissner & Egorova, 2015, p. 3) and a significant share in an increasing employment rate (Blank, 2013). Start-up companies often follow the 'Lean Start-up' approach, which aims to reduce entrepreneurial and organizational processes, leading to strategic flexibility (Ries, 2011). Besides, true entrepreneurs make decisions based on a future context (Fontela et al., 2006, p. 3). Thus, strategic orientations can be changed at short notice and require relatively little planning resources. Kirzner (1979, p. 168) also emphasizes the spontaneous, subconscious learning of entrepreneurs, which does not require a strategy.
This raises the question as to whether different approaches apply to start-ups in the design of environmental detection measures. In fact, business ideas of entrepreneurs might already result from predictions of the future and build specifically on ambiguous environments in order to develop certain visions (Companys & McMullen, 2007, p. 311). Does this make CF superfluous for start-ups in practice or is the term 'start-up' and its association with innovation and proactivity in line with CF? Of interest is the reference to open CF processes. Due to the special organizational frameworks and the importance of characteristics such as entrepreneurial spirit (Fontela et al., 2006, p. 7), start-ups seem predestined to be in active networking with their environment. On the other hand, start-ups may suffer from restricted access to resources in order to develop functioning systems that effectively reveal external changes and their effects (Day & Schoemaker, 2005, p. 2). Furthermore, knowledge is an important core competence for start-ups, which must be protected, especially in the market development phase (Gassmann, Enkel & Chesbrough, 2010, p. 215). These conflicting assumptions highlight the interest that start-ups have in (open) foresight topics.
The literature on foresight in companies is limited to a few preliminary works that develop theoretical frameworks or deal with the effects of CF on business processes (Rohrbeck, 2012, p. 448; Becker, 2003, p. 6). In general, it can be stated that there is a lack of conceptual and empirical explanations on CF (Gattringer & Strehl, 2014a, p. 1). However, interest in research is increasing significantly (Popper, 2008, p. 64). Especially in connection with start-ups, a major research gap was identified. Extended by the focus on OF activities, this paper intends to provide initial insights into CF potential for start-ups. Methodically, a literature research and theoretical assessment are applied.

Literature Review

Corporate Foresight

Definition

Dealing with the future has been a constant practice in human civilizations, reflected in cultural rites and fortune-telling (Will, 2008, p. 235). The scientific debate on the future goes back to the 19th century, when first universities began to deal with a future policy (Tiberius, 2011, p. 18). After further military appreciation during the years of Second World War, Ansoff (1975, p. 21) recognized that uncertainty, complexity and volatility in the organizational environment could be reduced by observing 'weak signals'. Weak signals are unstructured information that emerge in the context of impending environmental changes (Rau, Schweitzer & Gassmann, 2014, p. 30). The concept states that change can be perceived before it occurs, as it is the result of causal relationships announced by these weak signals. In order to identify weak signals, systems that warn organizations about undesirable events and inform decision-makers about emerging opportunities are needed.
Activities and systems that describe the search for (market-side) trends and new technologies are referred to as 'Foresight' and belong to the field of Futurology (Tiberius, 2011, p. 13). Foresight in a business context is a cross-sectional function of strategic management, technology management and innovation management and is referred to as 'Corporate Foresight' (Rau, Schweitzer & Gassmann, 2014, p. 27). The discipline of CF is not a new field, but a relatively new one in research (Daheim & Uerz, 2008, p. 322). Due to its heterogeneity about actors, methods and paradigms a common scientific definition of CF does not exist (Becker, 2003, p. 8). Furthermore, CF was empirically investigated mainly in large enterprises (LE) and small and medium-sized enterprises (SME) (Portaleoni, Marinova, Ul-Haq & Marinov, 2013, p. 50).
According to Coates (1985, p. 30), CF is a process of creating understanding about the future. The aim is to minimize risks and exploit opportunities through systematic activities (Rau, Schweitzer & Gassmann, 2014, p. 27). This is also illustrated by Martin (1995, p. 2), whereby CF looks at long-term developments in science, technology, business and society with the aim of identifying strategic areas that generate competitive advantages for business. This view also covers Horton's (1999, p. 5) definition, whereas CF is seen as the process of developing different scenarios of possible future forms and the understanding of them. The goal is to develop the ability to decide what actions are necessary today to create the best possible 'tomorrow'. Rau, Schweitzer and Gassmann (2014, p. 27) emphasize the organizational learning process within the framework through scenario building.

The main external drivers and determinants of CF are environmental dynamics, the complexity of external environmental structures and the resulting uncertainty (Jissink, Huizingh & Rohrbeck, 2014, p. 5). Internal drivers are seen as willingness to learn, strategic orientation and market and/or technology orientation (Jissink, Huizingh & Rohrbeck, 2014, p. 7). Organizationally, there is a tendency in LE to establish specialized foresight departments and think tanks (Daheim & Uerz, 2008, p. 324).

Perspectives

CF can be viewed from different perspectives. Rohrbeck (2011) developed the 'Corporate Foresight Maturity Model', a basic framework for the evaluation of CF activities. This model is based on a system approach, meaning CF is regarded as an organizational capability. Thus, the company context can influence its quality (Rohrbeck, 2011, p. 48). This also leads to the cognition that there is no generally applicable CF method and each organization carries out CF according to its own capabilities (Day & Schoemaker, 2005, p. 2). Five areas which determine CF skills and activities can be identified. With increasing maturity, a higher added value can be expected. It must be considered

1) how and where information is used,
2) which methods are applied,
3) which people and networks are involved,
4) at which organizational level CF activities are initiated and
5) whether the corporate culture promotes CF positively (Rohrbeck 2011).

The system view is contrasted with an approach that regards CF as a continuous process (Becker, 2003, p. 7). Despite there are differing definitions, most authors identify three main phases of an CF process. According to Horton (1999), an CF process consists of three sequential steps: The 'input', the actual 'foresight' and the 'output' phase. During the input phase, information about the environment is collected. In the foresight phase these are analyzed in order to generate knowledge as a basis for strategic orientations. The output phase deals with the integration of the results into strategic planning (Gattringer & Strehl, 2014a, p. 4). Results can be material (e.g. reports) or immaterial (e.g. visions) (Voros, 2003, p. 11).

In practice, even multinational LE have deficits in the implementation of suitable systems. The main reasons cited for not implementing CF include excessive costs, a too broad time horizon and unclear efficiency of the results (Becker, 2003, p. 18). Organizational integration and insufficient legitimization of CF are other challenges that have to be overcome (Daheim & Uerz, 2008, p. 327). Furthermore, main fields of investigation are technologies and market trends, while political, social or ecological areas are only considered if they justify innovative developments (Becker, 2003, p. 15). In industries with low dynamics and complexity, rudimentary systems are sufficient (Conway & Voros, 2003, p. 4).

Potential Value

Evaluation of results that lie in the future, and for which there is no recognized evaluation system, is a complex task. Besides, successful future analysis results in leaving an undesired event undone and thus unnoticed (Grim, 2009, p. 69). Accordingly, the following descriptions only deal with potential value generation through CF.

CF primarily provides insights that are valuable for strategic management and idea generation in innovation management (Becker, 2003, p. 7). In this sense, CF is an input for the reinforcement of strategic thinking leading to more robust strategies (Conway, 2008, p. 3) and enriching the context in which strategies are developed, planned and executed (Conway & Voros, 2003, p. 4). The main objectives of CF are to prepare for strategic decision-making, to secure long-term competitiveness and to strengthen the organizational learning and innovation capacity of companies (Burmeister, Neef & Beyers, 2004). The main value of CF for strategic management is therefore the motivation for strategic reorientation (Rohrbeck & Schwarz, 2013) and greater resilience to disruptive change (Rohrbeck, 2012, p. 442).

According to Becker (2003), CF can initially set up an early warning system as a forward-looking means of information. Secondly, CF can support strategic decision-making in a trend-setting way. Thirdly, CF can directly influence decisions, e.g. in the context of research and development priority setting. Fourthly, CF can make an explicit contribution to strategy formulation. A last function is the promotion of innovation capability. Rohrbeck and Gemünden (2011) identify three essential roles that CF plays in innovation management. CF appears as (1) input provider, (2) strategic instrument and (3) continuous service. CF activities promote the effect of these roles positively. This means that effective CF leads to improved identification of opportunities and risks along the innovation process (Becker, 2003, p. 7).

Open Foresight

Definition

Daheim and Uerz (2008) describe an evolution through which CF has gone. Initially, CF was limited to expert assessments. Later, quantitative models were used to predict future changes. In the third phase, the observation of weak signals or trend indicators enabled reaction to changes. However, the reactive perspective and limitation to trend developments no longer meet the requirements of a modern CF (Daheim & Uerz, 2008, p. 333). Therefore, in the fourth wave of CF the concept of context-dependent OF will be dominant. It is characterized by interaction and communication and is a consequence of the change in new information and communication technologies which set the framework for our networked society (Daheim & Uerz, 2008, p. 332; Miemis, Smart & Brigis, 2012, p.91). A clear separation of environmental areas is no longer possible due to unclear boundaries. In these open systems developments influence each other.

'Open' in this sense refers to the concept of Open Innovation, which is defined as the strategic opening of the innovation process and the planned integration of the corporate environment into it (Chesbrough, 2006b). Especially the integration of external sources such as 'lead users' with the aim of actively using their knowledge in the innovation process characterizes this term (Chesbrough, 2006b, p. 2). This enables companies to anticipate potential concepts for other customers at an early stage (Wilhelmer & Nagel, 2013, p. 12). In this regard, the ability to cooperate is regarded as a core element for being highly innovative (Enkel, Gassmann & Chesbrough, 2009, p. 312).

When applying this view to CF, OF can be defined through participation, methodological diversity, context orientation and transparency. It is intended to bring added value through the opening of the CF process in terms of content and process (Enkel, Gassmann & Chesbrough, 2009). The focus lies on generating radical ideas that cause 'constructive disturbances', thus questioning the prevailing status quo and triggering developments outside the usual horizon (ibid.). Furthermore, OF can actively accompany the communication process in which decisions are made and not only prepare for decision-making. OF allows interdisciplinary questions to be dealt with, whereby trend observations are not only reactive, but companies aim to actively influence conditions (Daheim & Uerz, 2008, p. 331). Thus, OF assumes that the future can be actively shaped.

For this purpose, Daheim and Uerz (2008, p. 334) use the 'context logic', which is intended to combine corporate strategy with trend developments. While the strategic sphere exists between the poles 'companies and markets', the trend sphere is defined by 'customers and environment'. For companies it is difficult to directly control their socio-cultural environment (trend sphere), but it is relatively easy to foresee developments in this sphere (e.g. demographic change). On the other hand, developments in consumer behavior are relatively easy to influence but can only be anticipated in the short-term.

OF provides approaches to connect these two spheres, which shape the corporate context. On the basis of open dialogues, this dynamic context can be better anticipated. Trend developments are analyzed in connection with the current context (e.g. application of a product in everyday life) in order to derive strategic options. The previous process 'trend - effect - reaction' is replaced by the visionary process 'trend - context - strategy'. Through this connection, company needs can be aligned with the demander's needs. Market perspectives are expanded, and potential of innovations assessed more realistically (Daheim & Uerz, 2008). This context-based paradigm reinforces that the future can be shaped through interaction.

Irrespective of this, Miemis, Smart and Brigis (2012) describe OF as a way to increase the number of participants in CF processes in order to increase the flow of data and its quality. The goal is high public participation and the promotion of critical forward-thinking. Hence, OF is a model that collects impressions, generates scenarios and creates strategic roadmaps for the future (ibid.). The authors cite three essential features that characterize OF. First, OF should have a collective structure to actively involve participants. According to the principle of 'The Wisdom of Crowds', knowledge of a high number of individuals should be combined to qualitatively better group knowledge (Surowiecki, 2005, quoted from: Rau, Schweitzer & Gassmann, 2014, p. 43). Secondly, OF should be structurally open in order to enable everyone who is interested in participating. Building on this, a diverse collective base with different backgrounds can be created (Miemis, Smart & Brigis, 2012, p. 93). Thirdly, OF should offer clear incentives in order to increase the probability of participation.

Many companies have realized that a conscious opening of CF can have positive effects on the identification of new business areas and on the avoidance of organizational blindness (Rau, Schweitzer & Gassmann, 2014, p. 30). Rau, Schweitzer and Gassmann (2014) identify five specific motivations for the conscious opening of company borders. First, various insights into future trends and promoting diversity of perspectives can be taken. Second, employees may be sensitized for the detection of future developments. Third, potential partners in innovative research projects can be

identified. Fourth, it can be focused on the identification of blind spots and, lastly, on ensuring commitment, trust and relationships.

Methods

One approach to OF techniques are open space conferences. They are characterized by the self-determination of the participants, because there is no pre-planned course of events. Thus, the possibility of co-determination of the participants is to be increased (Harrison, 2001). Other methods that cross company boundaries represent crowdsourcing and community approaches. Both include the use of modern (virtual) communication technologies to enable the largest possible number of participants to improve the quality of OF through the 'Intelligence of the Swarm' (Rau, Schweitzer & Gassmann, 2014, p. 44). Especially in times of Web 2.0, 'social media' communities emerge. Major principle of the approaches presented is the self-selection of the participants (Füller, Lemmer & Hutter, 2014, p. 247). Accordingly, gaming methods have proven effective as a stimulus for participation.
OF approaches enable integration of collective intelligence into qualitatively better forecasts. Nevertheless, OF methods are still in initial stages and must evolve in order to make use of the latest technologies (Miemis, Smart & Brigis, 2012, p. 96). In summary, it can be stated that the more advanced the opening of a CF process, the more valuable is the information advantage that organizations can gain from it.

Success Factors and Challenges

How an optimal OF system is set up remains context-dependent (Gattringer & Strehl, 2014a), but challenges and success factors valid for CF and Open Innovation can be relevant in various phases of the OF process (Gattringer & Strehl, 2014a, p. 15), since they relate primarily to the outside-in approach.
First, a common understanding of the expectations, opportunities and risks of the OF process should be achieved (Rudzinski & Uerz, 2014, p. 299). In particular, the understanding of a common language and explicit goals relevant to all participants is a fundamental factor for most authors, which also promotes the internal legitimation of CF (Becker, 2003, p. 20). The added value should be made clear for all participants (Gattringer & Strehl, 2014b, p. 4). In addition, a high degree of participation and trust must be made possible by an appropriate corporate culture (Rohrbeck, 2012, p. 449) and community thinking must be established (Gattringer & Strehl, 2014a, p. 10). In particular, the team composition and identification of ideal external experts pose a major challenge (Gattringer & Strehl, 2014b, p. 3). These should come from different areas, introduce new perspectives and have large networks of their own (Rohrbeck, 2012).
A too wide opening, however, can lead to high coordination costs (Rau, Schweitzer & Gassmann, 2014, p. 45) and a loss of control and core competencies (Enkel, Gassmann & Chesbrough, 2009, p. 312). The handling of data from participatory research therefore must be clarified. Consequently, the OF process must be planned accurately with its implementation linked to the strategic planning processes (Rudzinski & Uerz, 2014, p. 299). Relationships between entrepreneurs and scientists can create barriers due to time perspectives and problem-solving approaches (Roveda & Vecchiato, 2008, cited after: Gattringer & Strehl, 2014a, p. 8). But active involvement of decision-makers reflects the importance of CF and can have a positive effect on the motivation and trust (Conway & Voros, 2003, p. 10). Makarova and Sokolova (2012, p. 3) emphasize the necessity of continuous evaluation processes in order to ensure the learning process and meaningfulness of the results. As the process itself, this should be conducted iteratively (Rudzinski & Uerz, 2014, p. 299). OF deals with many soft challenges of CF (Daheim & Uerz, 2008, p. 331). Challenging the dominant logic remains the greatest challenge as it requires a change in mental attitude (Daheim & Uerz, 2008, p. 333).

Research Method

Corporate Foresight Maturity Model created by Rohrbeck (2011) was applied for the following discussion of interrelations. It was used to elaborate on organizational factors considered to promote potential usage of CF. Based on this view on value creation, further theoretical assessment derived from literature review identified possible impacts CF systems may have in start-ups.

Potential Value of (Open) Foresight in Start-up Companies

In this paper 'start-ups' are defined as companies that are characterized by a high degree of innovation, strive for significant sales growth and that are no older than 10 years (Ripsas & Tröger, 2015, p. 12). Although clear differentiation is hard, innovativeness is finally the factor that distinguishes start-ups from SME.

Lean Start-up Theory and Corporate Foresight

Start-ups follow an intuitive impulse (Vishnevskiy, Meissner & Egorova, 2015, p. 3) and develop products, services or business models that are new to a market (Ardichvili, Cardoz & Ray, 2003, p. 109). So, they pursue a concrete idea based on specific planning (Shane, 2003, p. 10). Accordingly, it can be argued that an early identification of potentials has already taken place. Furthermore, entrepreneurs are characterized by special cognitive characteristics that enable them to instinctively recognize potential business ideas (Shane, 2003, p. 10) and the management of companies is often intuitive and emotional (Allinson et al., 2000, cited after: Shane & Delmar, 2004, p. 769). Since the return on investment for CF activities is often only discernible in the long-term (Rohrbeck, 2012, p. 448), investing in CF systems seems risky for start-ups because they are oriented towards the expectations of shareholders, which does not permit long-term orientation (Becker, 2003, p. 19). In addition, the source of the core competencies of growing companies lie in the discreet handling of their intellectual property rights (Gassmann, Ellen & Chesbrough, 2010, p. 215). An open exchange of information counteracts. Furthermore, structured CF requires additional quantitative and qualitative human resources. For these reasons, at a first glance, systematic early detection makes sense more for advanced companies that are a wealth of resources, have an existing business model and try to protect themselves from unexpected events.

However, start-ups in particular operate in an uncertain, dynamic environment and do not develop according to a master plan (Blank, 2013). Referring to that, the Lean Start-up concept (Ries, 2011) enjoys particular attention in practice, assuming that start-up companies act hypothetically. This means that their business visions are formulated in hypotheses - not assumptions - and are gradually tested for distortion (Blank, 2013). Products, services or business models are developed to the extent that they represent suitable prototypes but consist only of the most necessary components. These are then checked by customers for their marketability. Depending on the feedback, measures can be taken to optimize the project, to obtain full approval or to create a new hypothesis. The steps are carried out until a satisfactory result is achieved.

This approach prefers experimentation over stringent planning, customer feedback over intuition and iterative development processes over linearly ones (Blank, 2013). So, a lean culture seems to strengthen a short-term mindset and make CF obsolete. However, a true understanding of the market and valid development potential cannot be generated either by 'learning from mistakes' or by static, fictitious business plans (Blank, 2013). It is also questionable whether customers can make precise predictions about their own future demands (from Hippel, 1994, quoted from: Ardichvili, Cardoz & Ray, 2003, p. 108). But CF should use findings in an organizationally meaningful way. This includes research into new markets, products and services (Slaughter, 1999, cited after: Conway & Voros, 2003, p. 2), which also represents the definition of 'Entrepreneurship' (Eckhardt & Shane, 2003, p. 336). It is therefore obvious to use CF in particular for the identification of entrepreneurial opportunities (EO), which is also regarded as a core element of the entrepreneurial process (Gaglio & Katz, 2001, p. 95).

Entrepreneurial Opportunity Theory and Corporate Foresight

EO are situations in which new markets, products or services are created as a result of a combination of resources to generate economic value (Shane & Venkataraman, 2000, p. 220). EO cannot be predicted ex ante due to a lack of information, therefore not being calculable (Venkataraman, 2000, p. 220). They always result from individual assessments (Shane, 2003) and creative decisions (Eckhardt & Shane, 2003, p. 336) and their identification requires a certain contextual knowledge (Shane, 2000). According to Alvarez and Barney (2007), EO can exist independently of entrepreneurial actions and be discovered ('Discovery Theory') or not exist and be generated through actions of an entrepreneur ('Creation Theory').

EO in the context of the Discovery Theory result from the search for information in order to identify a market gap. It involves the perception of a fit between market needs and resource requirements (Ardichvili, Cardoz & Ray, 2003, p. 109). EO result from an information imbalance, in particular from different perceptions, expectations and knowledge about the value of (future) resources (Shane & Venkataraman, 2000, p. 220). In the context of identifying these EO, information updates on external environmental developments are decisive factors. EO in the context of Creation

Theory arise from the observation of market reactions and deriving entrepreneurial actions that generate EO covering market needs. Without entrepreneurial actions opportunities would have not appeared. External pressure for change can motivate entrepreneurs to pursue EO in a targeted manner (Stevenson & Gumpert, 1985). Eckhardt and Shane (2003, p. 341) cite government intervention, regulatory change and demographic change as the most important sources of EO.

CF can be useful in both theories responding to the nature of the entrepreneur. The consideration of EO as existing opportunities supports the idea of CF as an instrument for identifying external change. Within this framework, CF with its extended search and learning process, can be used as input for hypothesis generation or validation in the context of Lean Start-up. Especially in the context of OF, a more intensive customer integration into the development processes can be achieved through the use of internet technology (Chesbrough & Prencipe, 2008, cited after: Enkel, Gassmann & Chesbrough, 2009, p. 314).

Gruber, MacMillan and Thompson (2008) state that companies should carry out a market analysis as broad as possible before deciding on a market (early intelligence). Through an environmental analysis, CF can help start-ups to identify a wide range of option sets and differentiated markets. Through these options, the most attractive alternative can be chosen, and services can be placed in a suitable market, thus counteracting the risk of opening up a smaller one (ibid., p. 1655). The prerequisite for this is an adequate market knowledge, which can be improved by knowledge transfer from sources outside the industry (ibid., p. 1656).

Furthermore, the attractiveness of EO depends on contextual environmental factors (Shane, Locke & Collins, 2012). In order to open up the evaluation framework as broadly as possible, an open approach to future topics in the sense of OF is obvious. So, the systematic environmental assessment should make sense especially for companies with a high degree of business model flexibility, as they are more open to opportunities (Park, 2005, p. 742). However, small companies are less successful in developing opportunities (Ireland, Hitt & Sirmon, 2003, p. 963). Consequently, as an open coworking approach, OF could promote developments through exchange with a networked (online) community (Chesbrough, 2006, p. 225; Vishnevskiy, Meissner & Egorova, 2015, p. 11). In this way, start-ups could counter their size disadvantage (Gassmann, Enkel & Chesbrough, 2010, p. 216).

Particularly with regard to organizational culture, OF structures can enrich investor/supplier/employee relationships, since these relationships are based on a common understanding of a social construct and potentially need to coordinate many invisible (valuable) ideas (Lewin, 2015, p. 7). Looking at the development that has taken place in the area of financing, existing crowdfunding platforms can be understood as open (early) intelligence efforts in the broader sense. By providing prospective information about their products and services, start-ups create an open dialogue, which promotes partner finding (here: investors). These in return deliver their experiences and other resources as an input.

With regard to personal start-up characteristics, CF can also be applied to raise awareness of 'entrepreneurial alertness'. This increases the ability to critically examine market conditions (Gaglio & Katz, 2001, p. 99). In addition to cognitive factors, motivation is particularly critical for the successful identification of EO (Shane, Locke & Collins, 2012). In this regard, CF can contribute to a clear picture of the future (Voros, 2007, p. 6). This clear picture in turn strengthens the hope of the entrepreneur fostering greater success (Morrow, 2006, p. 10).

Conclusion

This paper is a first attempt to discuss the potential of CF in start-up companies. A literature review with subsequent discussion of possible interrelations was chosen as research design. The discussion was accompanied by the motivation to investigate CF in connection with the openness of the organizational culture (OF). The intention was to draw the attention of founders and scientists to this field in order to initiate further research. In principle, CF is an area that has been little researched. A major research gap was discovered in connection with start-ups. From the literature point of view, it is possible to derive areas that justify the potential of CF in start-ups.

Theoretically, a majority of start-ups follow an intensive Lean Start-up approach. Findings imply that intensities of the lean approach and CF may show a positive correlation. This means that the Lean Start-up and CF concepts are not mutually exclusive. Generally, CF approaches can support EO identification and improvement of entrepreneurial alertness, both in entrepreneurial Discovery Theory and Creation Theory. So, the openness of the organizational culture may be enhanced, also fostering entrepreneurial traits such as hope and motivation. Specifically, CF may be used as an input for hypothesis generation or validation in the context of Lean Start-up. OF approaches can lead to a more intensive partner integration into the development processes and support mechanisms that allow an increased participation of stakeholder groups.

The findings could lead to a new research approach that does not separate the concepts of CF/OF and Lean Start-up, but rather causally link them. This is remarkable, because after a first theoretical consideration there seemed to be no need for long-term planning for lean start-ups. Still there are obstacles to overcome, mainly the resource allocation for

CF activities and the lack of suitable method sets and competences. Participative methods using collective intelligence and modern information and communication technologies seem to be a promising approach since start-ups generally have a culture to allow openness.
As a first work dealing with CF potential in start-ups this paper can serve as a basis for founders to critically reflect on their own CF efforts. For future research it is necessary to specify the OF concept in more detail. Terminologies have to be defined clearly and associated methods to be developed more concretely. From this, a correspondingly better value of OF could be justified. Furthermore, the knowledge about the correlation of CF and lean culture creates a space for new investigations. Further research should also deal with the integration within the innovation system. It can be argued that the research fields Entrepreneurship and Foresight have many interfaces with other research areas and thus new research directions can be generated. However, there is a need for cause-and-effect analyses of the framework conditions and essential drivers. In addition, it must be demonstrated to what extent CF activities can be integrated into various business processes and their functions. The size, age and resource strength of the companies have to be considered.
In conclusion, it has to be stated that no method can predict the future of the world accurately. However, CF can mean a decisive knowledge advantage for practicing companies. This means that those who do not open their minds to the (entrepreneurial) future cannot shape it because it cannot be grasped at all.

Biography

Simon Dummel is a doctoral student at the University of Salzburg Business School (Austria). His dissertation project explores the relationship between Corporate Foresight, sales integration and innovation capacity of organizations. He holds a bachelor's degree in 'Business Administration' from Baden-Wuerttemberg Cooperative State University (Ravensburg, Germany) and a master's degree in 'International Business and Sustainability' from the University of Hamburg (Germany). He worked at renowned international companies, e.g. as Area Sales Manager within Michelin and as Consultant for Volvo Cars Corporation. For the latter he accompanied various projects specializing in project management, market implementation, as well as process optimization and investigation studies. His research interests lie in the fields of Corporate Foresight and Market Intelligence.

References

Alvarez, S. & Barney, J. (2007). Discovery and Creation: Alternative Theories of Entrepreneurial Action, Strategic Entrepreneurship Journal, 11(2), 11-26.

Ansoff, H. (1975). Managing Strategic Surprise by Response to Weak Signals, *California Management Review*, *18(*2), 21-33.

Ardichvili, A., Cardoz, R. & Ray, S. (2003). A Theory of Entrepreneurial Opportunity Identification and Development, *Journal of Business Venturing*, *18*(1), 105-123.

Becker, P. (2003). *Corporate Foresight in Europe: A First Overview* (Working Paper). Retrieved from Office for Official Publications of the European Communities, Luxembourg.

Blank, S. (2013). Why the Lean Start-up Changes Everything, *Harvard Business Review*, *91*(5), 63-72.

Burmeister, K., Neef, A. & Beyers, B. (2004). *Corporate Foresight. Unternehmen gestalten Zukunft*. Murmann.

Chesbrough, H. (2006a). *Open Business Models. How to Thrive in the New Innovation Landscape*. Harvard Business School Press.

Chesbrough, H. (2006b). *Open Innovation. The New Imperative for Creating and Profiting From Technology*. Harvard Business School Press.

Coates, J. (1985). Foresight in Federal Government Policy Making, *Futures Research Quarterly*, *1*(2), 29-53.

Companys, Y. & McMullen, J. (2007). Strategic Entrepreneurs at Work: The Nature, discovery, and Exploitation of Entrepreneurial Opportunities, *Small Business Economics*, *28*(4), 301-322.

Conway, M. (2008, March 29). Crystal Ball Gazing or Strategic Thinking: What is This Futures Thing All About Anyway? Retrieved from http://thinkingfutures.net/wp-content/uploads/2010/10/Conway-What-is-this-Futures-thing-all-about-anyway.pdf

Conway, M. & Voros, J. (2003). Foresight: Learning From the Future, *Journal of Institutional Research*, *12*(1), 1-15.

Daheim, C. & Uerz, G. (2008). Corporate Foresight in Europe: From Trend Based Logics to Open Foresight, *Technology Analysis and Strategic Management*, *20*(3), 321-336.

Day, G. & Schoemaker, P. (2005). Scanning the Periphery, *Harvard Business Review*, *83*(11), 135-144.

Eckhardt, J. & Shane, S. (2003). Opportunities and Entrepreneurship, *Journal of Management*, *29*(3), 333-349.

Enkel, E., Gassmann, O. & Chesbrough, H. (2009). Open R&D and Open Innovation: Exploring the Phenomenon, *R&D Management*, *39*(4), 311-316.

Fontela, E., Guzmán, J., Pérez, M. & Santos, F. (2006). The Art of Entrepreneurial Foresight, *Foresight*, *8*(6), 3-13.

Füller, J., Lemmer, S. & Hutter, K. (2014). Crowdsourcing: How Social Media and the Wisdom of the Crowd Change Future Companies. In O. Gassmann & F. Schweitzer (Eds.), *Management of the Fuzzy Front End of Innovation* (pp. 243-252). Springer.

Gaglio, C. & Katz, J. (2001). The Psychological Basis of Opportunity Identification: Entrepreneurial Alertness, *Small Business Economics*, *16*(2), 95-111.

Gassmann, O., Enkel, E. & Chesbrough, H. (2010). The Future of Open Innovation, *R&D Management*, *40*(3), 213-221.

Gattringer, R. & Strehl, F. (2014a). *Open Foresight Process for Identifying Innovation Opportunities.* Paper presented at R&D Management Conference, Stuttgart, Germany), 1-19.

Gattringer, R. & Strehl, F. (2014b). *The Role of the Pre-Foresight Phase in Open Foresight Processes*. Paper presented at the 5th International Conference on Future-Oriented Technology Analysis (FTA) – Engage today to shape tomorrow, Brussels, Belgium, 1-14.

Grim, T. (2009). Foresight Maturity Model (FMM): Achieving Best Practices in the Foresight Field, *Journal of Futures Studies*, *13*(4), 69-80.

Gruber, M., MacMillan, I. & Thompson, J. (2008). Look Before You Leap: Market Opportunity Identification in Emerging Technology Firms, *Management Science*, *54*(9), 1652-1665.

Harrison, O. (2001). *Open Space Technology – Ein Leitfaden für die Praxis*. Klett-Cotta.

Heger, T. (2015). Networked Foresight – The Case of EIT ICT Labs, *Technological Forecasting & Social Change*, *10*(11), 147-164.

Horton, A. (1999). A Simple Guide to Successful Foresight, *Foresight*, *11*, 5-9.

Ireland, R., Hitt, M. & Simon, D. (2003). A Model of Strategic Entrepreneurship: The Construct and its Dimensions, *Journal of Management*, *29*(6), 963–989.

Jissink, T., Huizingh, E. K. & Rohrbeck, R. (2014). *Corporate Foresight: Antecedents and Contributions to Innovation Performance*. Paper presented at XXV ISPIM Conference – Innovation for Sustainable Economy & Society, Dublin, Ireland, 1-15.

Kirzner, I. (1979). *Perception, Opportunity and Profit: Studies in the Theory of Entrepreneurship.* University of Chicago Press.

Lewin, P. (2015). Entrepreneurial Opportunity as the Potential to Create Value, *The Review of Austrian Economics*, *28*(1), 1-15.

Makarova, E. & Sokolova, A. (2012). *Foresight Evaluation: Lessons from Project Management* (Working Paper WP BRP 01/MAN/2012). Retrieved from National Research University Higher School of Economics, Moscow.

Martin, B. (1995). Foresight in Science and Technology, *Technology Analysis & Strategic Management*, *7*(2), 139-168.

Miemis, V., Smart, J. & Brigis, A. (2012). Open Foresight, *Journal of Futures Studies*, *17*(1), 91-98.

Morrow, R. (2006, March 29). Hope, Entrepreneurship and Foresight. Retrieved from https://www.researchgate.net/profile/Rowena_Morrow/publication/266470467_HOPE_ENTREPRENEURSHIP_AND_FORESIGHT/links/54d466e40cf246475805d8fb.pdf

Park, J. (2005). Opportunity Recognition and Product Innovation in Entrepreneurial Hi-Tech Start-ups: A New Perspective and Supporting Case Study, *Technovation*, *25*(7), 739–752.

Popper, R. (2008). How are Foresight Methods Selected?, *Foresight*, *10*(6), 62-89.

Rau, C., Schweitzer, F. & Gassmann, O. (2014). Open Foresight Workshops for Opportunity Identification. In C. Noble, S. Durmusoglu & A. Griffin (Eds.), *Open Innovation: New Product Development Essentials from the PDMA* (pp. 27-52). Wiley & Sons.

Ries, E. (2011). *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. Random House LLC.

Ripsas, S. & Tröger, S. (2016, March 23). 3. DSM-Deutscher Startup Monitor. Retrieved from http://deutscherstartupmonitor.de/fileadmin/dsm/dsm-15/studie_dsm_2015.pdf

Rohrbeck, R. (2011). *Corporate Foresight. Towards a Maturity Model for the Future Orientation of a Firm.* Physica.

Rohrbeck, R. (2012). Exploring Value Creation From Corporate-Foresight Activities, *Futures*, *44*(5), 440-452.

Rohrbeck, R. & Gemünden, H. G. (2011). Corporate Foresight: Its Three Roles in Enhancing the Innovation Capacity of a Firm, *Technological Forecasting & Social Change*, *78*(2), 231–243.

Rudzinski, C. & Uerz, G. (2014). Volkswagen: Open Foresight at the Front End of Research Innovation. In O. Gassmann & F. Schweitzer (Eds.), *Management of the Fuzzy Front End of Innovation* (pp. 295-299). Springer.

Shane, S. (2000). Prior Knowledge and the Discovery of Entrepreneurial Opportunities, *Organisation Science*, *11*(4), 448-469.

Shane, S. (2003). *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Edward Elgar.

Shane, S. & Delmar, F. (2004). Planning for the Market: Business Planning Before Marketing and the Continuation of Organizing Efforts, *Journal of Business Venturing*, *19*(6), 767-785.

Shane, S., Locke, E. & Collins, C. (2012). Entrepreneurial Motivation, *Human Resource Management Review*, *13*(2), 257-279.

Shane, S. & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research, *Academy of Management Review*, *25*(1), 217-226.

Stevenson, H. & Gumpert, D. (1985). The Heart of Entrepreneurship, *Harvard Business Review*, *63*(2), 85-94.

Suddendorf, T. & Corballis, M. (2007). The Evolution of Foresight: What is Mental Time Travel, and Is It Unique to Humans?, *Behavioral and Brain Sciences*, *30*(3), 299-351.

Tiberius, V. (2011). Grundzüge der Zukunftsforschung. In V. Tiberius (Ed.) *Zukunftsorientierung in der Betriebswirtschaftslehre* (pp. 12-81). Gabler.

Vishnevskiy, K., Meissner, D. & Egorova, O. (2015). *Foresight for SMEs: How to Overcome the Limitations in Small Firms?* (Working Paper WP BRP 45/STI/2015, Series: Science, Technology and Innovation). Retrieved from National Research University Higher School of Economics, Moscow.

Voros, J. (2003). A generic foresight process framework. *Foresight*, 5, 10-21.

Voros, J. (2007). Towards an 'Integral' View of Entrepreneurship, *Journal of Futures Studies*, *12*(2), 5-22.

Wilhelmer, D. & Nagel, R. (2013). *Foresight-Managementhandbuch: Das Gestalten von Open Innovation*. Carl-Auer.

Will, M. (2008). Talking About the Future Within an SME? Corporate Foresight and the Potential Contributions to Sustainable Development, *Management of Environmental Quality: An International Journal*, *19*(2), 234-242.

Momentum Returns In Major Markets

Spyros Spyrou
Athens University of Economics and Business, Athens, Greece

ABSTRACT

This paper investigates the existence of momentum profits in major equity markets, whether sentiment affects these returns, and their main determinants. The main findings can be summarized as follows: momentum strategies can offer significant risk-adjusted returns which, however, arise mainly in high sentiment (optimistic) months. Also, momentum returns are significantly affected by energy prices, a result that has been largely overlooked in previous relevant studies, and economic uncertainty.

Keywords: Momentum Returns, Volatility

1. Introduction

Many previous studies find that an equity investment strategy of going long past winner stocks and shorting past loser stocks (i.e. a momentum strategy) can deliver significant risk-adjusted profits (see, among others, Jegadeesh and Titman, 1993; Asness at al 2013; among others). This paper investigates the existence of momentum profits in major equity markets (US, UK, Germany, and Japan), whether sentiment affects these returns, and their main determinants, for the period between 1998 and 2018. A main contribution to the related literature is that the paper evaluates the impact of variables such as global energy prices and economic policy uncertainty.

2. Results

To measure the returns of the momentum strategy in international markets the Morgan Stanley Capital International Momentum Indexes are used for a sample period between 1998 and 2018 for the US, the UK, Germany and Japan. We define monthly returns as the first difference of the logarithmic monthly price levels. Table 1, Panel A, presents descriptive statistics for these portfolios for the full sample period and Figure 1 presents the historical evolution of these portfolios.

As we can see from Table 1 the momentum portfolio for the US exhibits the highest return of 0.63% per month, on average, which is approximately 7.56% if annualized. The lowest return is for the momentum portfolio in Japan, i.e. 0.11%, i.e. approximately 1.32% if annualized. This is consistent with findings in previous studies that in Japan the phenomenon is non-existent.

Previous studies indicate that profits from style investment strategies, such as momentum, may be due to the high returns of these strategies during optimistic months (see for example, Antoniou et al, 2013). In order to investigate this issue further, we define an optimistic (pessimistic) month as in Antoniou et al (2013) and use dummy variable regression analysis where the first dummy variable takes the value of one when sentiment is high and zero otherwise, and the second dummy variable takes value of one when sentiment is low and zero otherwise.

Table 1, Panel B, presents these results and we can see momentum returns are statistically significant and positive only during months when there is high sentiment (optimistic month) for all sample markets. For instance, for the US portfolio mean returns are on average 1.08% during high sentiment (optimistic) months and -0.22% during low sentiment (pessimistic) months.

Table 1
Momentum Returns in Optimistic and Pessimistic Months

Panel A
Descriptive Statistics

	USA	Japan	UK	Germany
Mean	0.0063	0.0011	0.0032	0.0046
Max	0.1345	0.1898	0.1341	0.1684
Min	-0.1694	-0.1678	-0.2094	-0.2086
St. Dev.	0.0450	0.0545	0.0482	0.0618

Panel B
Optimistic vs Pessimistic Period returns

	USA	Japan	UK	Germany
Optimistic months	0.0108	0.0061	0.0097	0.0109
	(0.00)	(0.17)	(0.03)	(0.04)
Pessimistic Months	-0.0022	-0.0111	-0.0023	-0.0026
	(0.63)	(0.04)	(0.60)	(0.67)

We next test for a series of momentum return determinants. Initially, a time series regression of momentum returns on monthly changes in a number of variables is evaluated. These variables proxy for global energy prices (proxied by the NYM Futures Contract on Light Crude Oil, and the NYMEX Henry Hub Futures Contract on Natural Gas), local business cycles, local risk factors, global stock market uncertainty, and local economic policy uncertainty.

The results (available upon request) suggest monthly changes in energy prices and changes in stock market uncertainty are consistently significant for all markets and for the full sample period. The rest of the variables are significant for some markets but not others (e.g. business cycle variables are not significant in Germany, economic policy uncertainty is not significant for Germany and Japan, risk factors such as the HML are not significant for the US, the UK, and Germany, etc). Sub-period analysis indicates that different factors seem to impact on momentum returns during different sub-periods. As a robustness test, we also estimate a a cross-section panel regression with all sample markets and for various sub-periods. Table 2 presents the main results from this regression which are consistent with the results from the time series regressions.

Table 2
Momentum Determinants

	Coefficient Value (*p*-value)
Constant	0.0033
	(0.02)
Economic Policy Uncertainty	-0.0078
	(0.12)
Oil Prices	0.1014
	(0.00)
Natural Gas Prices	0.0069
	(0.56)
Principal Component 1	0.0007
	(0.37)
Principal Component 2	0.0028
	(0.01)
Principal Component 3	-0.0063
	(0.00)
Volatility Index	-0.1215
	(0.00)
SMB	0.0000
	(0.88)

HML	-0.0017 (0.00)

3. Conclusion

This paper investigates the existence of momentum profits in major equity markets, whether sentiment affects these returns, and their main determinants. The main findings can be summarized as follows: momentum strategies can offer significant risk-adjusted returns which, however, arise mainly in high sentiment (optimistic) months. Also, momentum returns are significantly affected by energy prices, a result that has been largely overlooked in previous studies, and economic uncertainty.

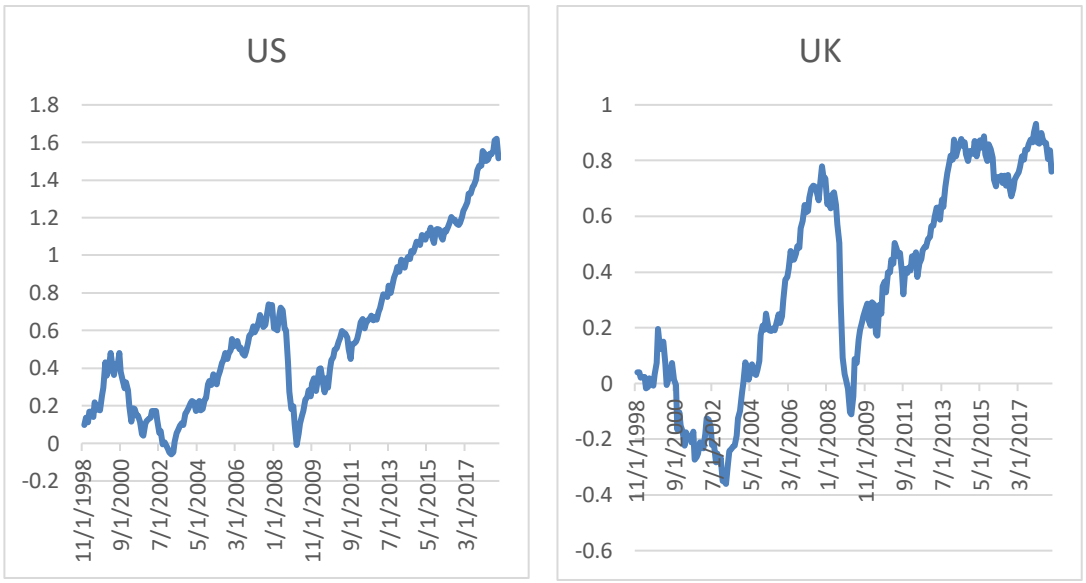
References

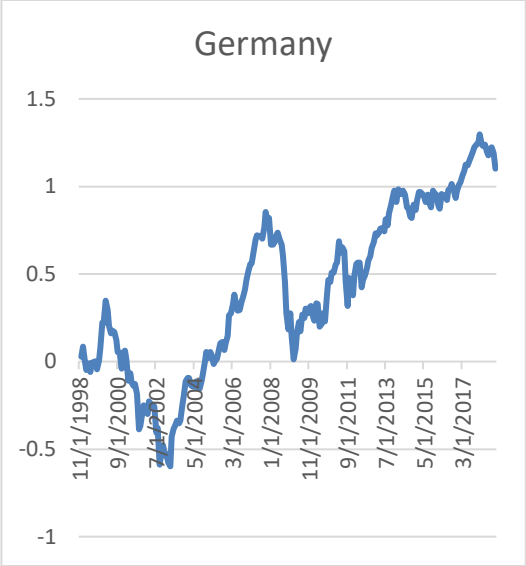
Antoniou, C., Doukas, J.A., Subrahmanyam, A., (2013). Cognitive dissonance, sentiment, and momentum. Journal of Financial and Quantitative Analysis 48, 245-275.

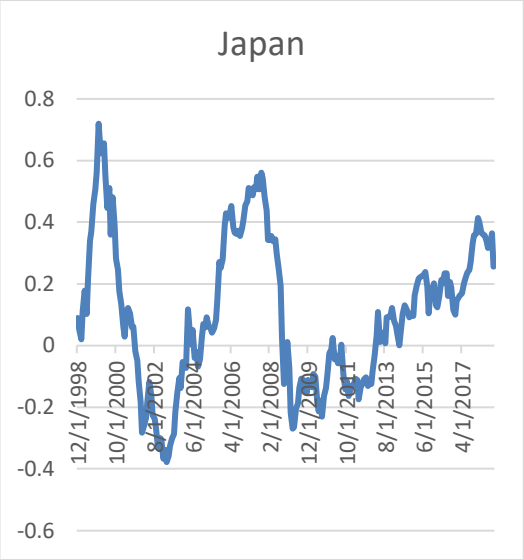
Asness, C.S., Moskowitz, T.J., Pedersen, L.H., (2013). Value and momentum everywhere. The Journal of Finance 58, 929–985.

Jegadeesh, N., Titman, S., (1993). Returns to buying winners and selling losers: implications for stock market efficiency. Journal of Finance 48, 65–91.

Figure 1
Momentum Returns




Germany
1.5
1
0.5
0
-0.5
-1
11/1/1998
9/1/2000
7/1/2002
5/1/2004
3/1/2006
1/1/2008
11/1/2009
9/1/2011
7/1/2013
5/1/2015
3/1/2017


Japan
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
12/1/1998
10/1/2000
8/1/2002
6/1/2004
4/1/2006
2/1/2008
12/1/2009
10/1/2011
8/1/2013
6/1/2015
4/1/2017

Creditworthiness and Governance of Thai Microfinance

Sunti Tirapat
NIDA Business School
National Institute of Development Administration
Bangkok, Thailand

Abstract

Understanding the role of governance in microfinance is important in economic development. In general, it should be expected that there is positive association between governance structure and creditworthiness, measured by the repayment rate, of these funds. Using the unique survey data set, this study examines the impacts of governance on the creditworthiness of two distinct types of microfinance institutions in Thailand, the National Village and Urban Community Funds (Village Funds) and Saving Groups for Agricultural Production (Saving Groups). The former is promoted and supported by the government policy while the later initiated by the community. Based on the sample of 5,669 village funds and 11,197 saving groups, the results of ordinal probit regression show that the impacts of governance are not according to common believes for the village funds. For these funds, most of governance variables have the opposite expected impacts on the repayment. But on the contrary, there is positive association of governance and creditworthiness for the Saving Groups. Moreover, the test based on the receiver operating characteristic (ROC) shows that the governance variables improve the performance of the prediction model only in the case saving groups. Overall, the study suggests that traditional governance mechanisms may not be effective for institutions with certain political agenda. Designing the effective governance structure is a complex and dynamic system that involves the interaction of diverse set of constituents. Although there are certain limitations of data, the study can be helpful in providing a basis for more rigorous study in the future.

Key words: Creditworthiness, Governance, Microfinance
JEL classification: G24, G34

1. Introduction

Microfinance institutions (MFIs) play an important role in providing financial access to the poor[1]. However, one of the major concerns of the MFIs is the creditworthiness or the repayment rate. Lending to the poor by these institutions has unique feature comparing to that of commercial loans. Microfinance institutions (MFIs) usually grant loans to people whose income originates mostly from informal economic activities without collateral. These institutions often rely on soft information to assess their borrowers' creditworthiness and use group lending with joint liability as a way to circumvent this problem. Joint liability provides an incentive for group members to use their social ties to screen, monitor and enforce loan repayment upon their peers (see Postelnicu, 2002 for the survey). For the evidence in Thailand, De la Huerta (2010) analyzes the impact of social ties and policies such as compulsory savings and training on repayment rates of joint liability lending programs. Based on a unique panel database on household loans from the Village Fund Program in rural and urban Thailand, results suggest that, indeed, find that joint liability may prosper in areas in which social ties are strong enough to permit individuals to costlessly enforce agreements in their community, and the threat of social sanctions exists and is credible. Moreover, compulsory savings or training in joint liability programs impacts repayment rates positively.

According to the Consultative Group to Assist the Poor (CGAP), as the microfinance industry grows and becomes more complex, governance plays an increasingly important role in managing sound institutions and since the governance structure helps increasing operating efficiency, mediating the interests of various stakeholders, and protecting the long-term health of the institution. Hence, it would be expected that the governance should have positive impacts on the repayment of the MFIs.

Using the unique survey data set, this study examines the impacts of governance on the creditworthiness of two distinct types of microfinance institutions in Thailand, the National Village and Urban Community Funds (Village Funds) and Saving Groups for Agricultural Production (Saving Groups). The former is promoted and supported by the government policy while the later initiated by the community. The survey was conducted by the Community Development Department (CDD) of Interior Ministry who has annually conducted surveys of MFIs in 2009. After excluding funds with incomplete data, the resulting sample consists of 5,669 observations of the village funds and 11,197 observations of the saving groups. Based on the probit regressions, it is found that the impacts of governance are not according to common believes for the village funds. Most of governance variables have the opposite expected signs. On the contrary, for the saving funds, the effects of governance on the repayment rate are as expected.

Overall the results suggest that traditional governance does not work for organizations set up by political agenda. Designing an effective governance structure for this type of organization requires more articulate framework than traditional checklists. This is consistent with the view of Larker and Tayan (2011) that governance is a complex and dynamic system that involves the interaction of diverse set of constituents.

The remainder of the study is organized as follows. Section 2 briefly describes the microfinance landscape in Thailand. Section 3 provides descriptive statistics of the survey data of the Community Development Department. Section 4 analyzes the repayment and governance. The main findings and conclusions are in Section 5.

2. Microfinance in Thailand

This section provides a briefly review of the development of microfinance in Thailand. It focuses on the government policy for financial access of the poor and financial institutions that provide loan to them.

Financial access of the poor in Thailand

Thai government has attempted to help providing financial access to the poor for decades. In 1966 they set up the Bank of Agriculture and Agricultural Cooperatives to provide credit for the farmers. The urban community development fund has been established in 1984. The fund provides resources to enable urban poor organization to set

[1] MFIs provide a broad range of finance services to low-income households and their enterprises which enable them to get out of poverty. However, studies that evaluate their impacts reported mixed results. The comprehensive review of the impacts of MFIs can be found in Bauchet et al. (2011).

up saving groups and lending to members in the community. It is an alternative mean to bypass the traditional bureaucratic mechanisms. Later the Urban Community Development Office (UCDO) was set up in 1992 as an organization in charge of managing the fund of 1,250 Baht. Under the Thaksin's populism policy, the National Village and Urban Community Fund and the People's Bank Project Loan operated by the Government Saving Bank were established in 2000 and 2001, respectively.

Although Thai government has put considerable efforts in providing financial services for the poor, the National Economic and Social Board of Thailand reported that in 2007 around 8.5% of the population (5.5 million people) have income below the poverty line (USD$570 per year) and these people cannot access to private financial institutions such as commercial banks and insurance companies. Consistent with the result of the jointed survey by the National Statistic Office and the Bank of Thailand in the same year, 9.61% of the households cannot access to any formal financial services at all. As a result, the improvement of financial accessibility of the poor has been put as one of the three key pillars of the Bank of Thailand's Financial Sector Master Plan Phase II (during 2010-2014). The measures in the plan include encouragement of existing commercial banks to provide services to the poor; support new microfinance service providers to enter to the market; development of infrastructure to enhance financial access for those underserved or excluded from services; and support the role of Specialized Financial Institutions (SFIs)[2].

Financial Institutions for the poor in Thailand

Financial institutions for the poor in Thailand can be categorized in three major types: the formal, the quasi-formal, and the informal ones. The formal institutions include commercial banks and the SFIs. The quasi-formal institutions include those set up by the government under certain decree such as village funds operated by the National Village and Urban Community Fund Office, Cooperatives, and Credit Unions. The informal institutions are those set up by people in the community. Basically, this form of institutions is not a legal entity under the Thai Banking Act. It is operated by local members in community in the form of saving funds or village banks. The characteristics of the quasi-formal and informal financial institutions in Thailand are summarized in Table 1.

3. Survey Data and Descriptive Statistics

The survey data on microfinance loans by the Community Development Department (CDD) under the Ministry of Interior. These surveys have been conducted annually since 2009 by officers of the CDD. The main purposes of the surveys are to get the basic information and evaluate the success of the National Village and Urban Community Funds and Saving Groups for (Agricultural) Production.

National Village and Urban Community Funds Survey

There are 21 questions in the survey. Basically the data from the survey consists of the characteristics of the funds such as name, type, number of members, sources of funds etc. and the payment record as well as default (non-repayment) outstanding. The observations are 7,277 village funds in 2009. The observations increase significantly to 51,903 and 62,628 village funds in 2010 and 2011 (47,301funds are common during 2010 and 2011).

Saving Groups for (Agricultural) Production Survey

There are 32 questions in the survey. The questionnaire is divided into five sections: the basic information, board and member, organization and management, activity and capacity development, and profitability and allocation. The sample consists of 3,930 saving funds in 2009. Like the village funds, the number of observations increases significantly to 30,388 and 31,261 funds in 2010 and 2011 (26,514 funds are common during 2010 and 2011).

Descriptive Statistics

[2] These are eight stated owned banks in Thailand: Bank of Agriculture and Agricultural Cooperatives, Export-Import Bank of Thailand, Islamic Bank, Government Housing Bank, Government Saving Bank, The Small and Medium Enterprise Development Bank of Thailand, Secondary Mortgage Corporation, and Small Industry Credit Guarantee Corporation.

The descriptive statistics of the surveys are reported in Table 2 and Table 3. These tables summarize the data sets that have been regularized by removing outliers and miscoded records. For the village funds, Table 1 shows general characteristics, size-related characteristics, and their operating performance characteristics.

Most funds were legally registered with the ministry of internal affair. Very few funds were upgraded to financial institutions which could full services for villagers, for example, 4.55% in 2011 and only 3.13% in 2010. These village funds tended to be more connected over time, as being observed from the growing numbers of members of the province, district, and sub-district networks over the years. There were comparable numbers of male and female members of the funds, with the number of female slightly more than that of male. The number of executive board was between 9 and 15, with the mean of 12. The number of male executives was slightly more than that of female executives. The saving amount in a typical village fund was in the order of hundred thousand bahts. As for operating performance, in 2011, a fund extended 73 loans per year in average. Among these loans, 67 were paid, generating about 260,000 bahts profit in average.

For the saving groups, in 2011, a saving group had about 120 members in average, with average saving balance and average loan balance of 522,701 bahts and 404,506 bahts, respectively. These numbers were growing slightly from 2010. The executive board is composed of 13 members in average. Most groups performed well with about 81% of the groups had repayment rate at least 90%. The survey also include various variables on management and operations such as accounting controls, frequency of board meetings, and frequency of trainings.

4. Repayment and Governance

4.1 The Baseline Model

To investigate whether governance has an impact on the repayment of members, I estimate the credit rating model and augment it with governance variables. Specifically, the following latent score model is estimated:

$$Y_{i,t}^{*} = \sum_{k=1}^{n} \beta_k X_{k,i,t-1} + \varepsilon_i$$

$$P\left(Y_{i,t} \leq j \,\middle|\, X_i\right) = P\left(Y_{i,t}^{*} \leq \alpha_j\right) = G(\alpha_j - \sum_{k=1}^{n} \beta_k X_{k,i,t-1})$$

where

$Y_{i,t}$ = be the dependent variable representing the credit rating of institution i at time t.
$Y_{i,t}^{*}$ = be the latent variable that drives the credit rating of institution i at time t.
$X_{k,i,t-1}$ = independent variable k of institution i at time $t-1$, for $k = 1, \ldots, n$.
α_i = trigger level, j = 1, 2 with a restriction that $\alpha_1 \leq \alpha_2$.
ε_i = random variable with standard normal distribution

Dependent Variables

The dependent variables, $Y_{i,t}$, is the dummy variable representing the repayment of institution i at time t. It equals to:

1 if the repayment rate of the members is less than 60%
2 if the repayment rate of the members is between 60% and 89%
3 if the repayment rate of the members is greater than or equal to 90%

Control Variables

The control variables include size, status, and performance of institutions as control variables from the survey data. However, due to data provided in the CDD survey, control variables may be different between the two types of institutions. The variable descriptions are provided in the Appendix. In particular, for the village funds, the control variables are Financial Institution, Legal Entity, Village Fund Log of Profit, Log of Saving, Log of Total Asset, Population, and Number of Families. Regarding the saving groups, the control variables include Log of Total Loan, Log of Saving, Number of Members, and Member Saving.

Governance Variables

Because the limitation of the CDD survey, the choice of governance is quite limited. It does not allow us to use the common set of governance variable for both types of funds. However, the insight from the study can be helpful in redesigning the survey which in turn provides a basis for more rigorous study in the future.

Village Funds

For village funds, I consider the following variables and their expected association to the repayment rate (in parenthesis): Proportion of female members (+); Female Member (+); Female Executive (+); AAA (+); Provincial Network (+); District Network (+); Sub-district Network (+).

There are common believes that women in general are in general better credit risks than men in microfinance. For example, using sample microfinance institutions from 70 countries, D'Espallier, Guérin, and Mersland (2011) find that woman repayment is higher than that of men. However, in this study we focus on the role of women in governing the operations of institutions. Diversity of gender could be significant in governance (see for example Fields and Keys, 2003 for a survey of the literature). Recent proposals for governance reform especially in Europe explicitly stress the importance of gender diversity in the boardroom. One argument is that boards could enhance their effectiveness by tapping broader talent pools for their directors. Another argument is that, female directors tend to be more independent since they do not belong to the "old boys club". Carter, Simkins and Simpson (2003) find a positive relation between gender and ethnic diversity of the board and corporate performance. However, Adams and Ferreira (2009) suggest that the true relation between gender diversity and firm performance appears to be more complex. They find that gender-diverse boards provide more effort to monitoring role in terms of meeting attendance and female directors are also more likely to sit on monitoring-related committees than male directors. But the average effect of gender diversity on firm performance is negative, suggesting that greater gender diversity could lead to over-monitoring. Furthermore, they document that diversity has a positive impact on performance in firms that have weak governance. Their results seem to suggest that the gender diversity is beneficial under certain environment. For the microfinance institutions where the operation is rather simple and informal, we would expect that the monitoring effect should dominate the other. There should be positive association of the Female Member and Female Executive variables with the repayment rate of the funds.

The high level of development should point in the direction of good governance. For example, Stulz (2005) provides evidence that in a country with low level of financial development it is more likely to have a firm with insider concentrated ownership that can appropriate the minority. The Community Development Department assigns the rating of funds based on the level of development of funds. The rating is assigned by an officer who work with the locals but exactly how they assign rating is proprietary. It would be reasonable to expect that there should be positive association between the repayment rate and AAA, the highest level of development.

Networking is important elements in learning and development. De la Mothe and Paquet (1996) argue that Network alliances are a way to reduce uncertainty and adaptation costs arising from the complexity of the environment through an increase of the collective organizational capabilities of the partners. Cooke and Morgan (1998) also point out the strength of the individual organization depends on links with customers, suppliers, distributors and competitors. This strength arises because of the 'learning' by interacting from networking. Hence, it should be expected that there should be positive association between networking at different levels (Provincial Network, District Network, and Sub-district Network) and the repayment rate of the funds.

Saving Groups

Regarding the saving groups, the governance variables and the expected association, in parenthesis are: Audit Committee (+); Board Meeting (?); Board Size (?); Board Election (+); Accounting Standard (+); Auditing Frequency (?); Organizing Seminar; Exchange Idea (+); Number of Training (+)

Having an audit committee generally is one of the best practice principles. The audit committee plays a major role in creating and maintaining the right culture for quality auditing by accommodates an open discussion in a culture of integrity, respect and transparency between management and the auditors. Most studies on audit committee focus on the audit committee's role in preventing fraudulent accounting statements. For example, Klien (2002) investigates whether audit committee and board characteristics are related to earnings management by the firm. It is found that there is a negative relation between audit committee independence and abnormal accruals. Moreover, reductions in audit committee independence are followed by large increases in abnormal accruals. Hence, we should expect that there is positive association between the Audit Committee and the repayment rate of the funds. Although, it is difficult to see that for the informal organization such as saving groups the audit committee would provide this crucial function. Whether this is just a check-box type of governance required by the government is an empirical question.

Board of directors provides two key functions: monitoring role and advisory role. One view is that board meetings are beneficial to shareholders. The frequency of board meeting is a proxy for how attentive of directors in providing monitoring role. Conger et al. (1998) suggest that board meeting time is an important resource in improving the effectiveness of a board. An opposing view is that board meetings are not necessarily useful because the limited time outside directors spend together is not used for the meaningful exchange of ideas among themselves or with management. In fact, Jensen (1983) suggests that boards should be relatively inactive, and that boards are usually forced to maintain higher activity levels in the presence of problems. In this view, high board activity (more frequent meeting) is a likely corporate response to poor performance. Vafeas (1999) find that annual number of board meetings is inversely related to firm value. The result is driven mainly by increases in board meeting after the share price declines. As a consequence, the association between the Board Meeting which indicates meeting every month and performance is unclear.

The size of the board of directors (Board Size) is related to size and complexity of operations. With Large boards an institution has more resources to both advisory and monitoring functions. However, with large boards an institution may suffer from slow decision making, less candid discussion, and free rider problem. Yermack (1996) find that as board size increases, firm values decrease. Larger boards are less likely to fire underperforming CEO and to award performance related compensation contracts. However, recent studies suggest that understanding the board size effects is more complicated. It depends on other structures such as board independent that likely influence the association between size and performance. According to Boone et al. (2007), the structure of board of directors (size and independence) depends on scope of operation, required monitoring, and management negotiation of firms. They track firms that went public through their first ten years of existence show that board size and independence are shaped by a broad combination of firm-specific and managerial characteristics overtime. Linck et al. (2008) provide evidence that does not support the popular notion that smaller, more independent boards strictly dominate alternative board structures. For example, firms with high growth opportunities, high R&D expenditures, and high stock return volatility are associated with smaller and less independent boards, while large firms have larger and more independent boards. Coles et al. (2008) find that complex firms, which have greater advising requirements than simple firms, have larger boards with more outside directors.

From the above discussion, the association of size is not obvious. The scope of operation argument seems to require less board while the monitoring argument suggests larger board size. Hence, the association between the Board Size and performance can be either positive or negative. Since saving groups' operations are not complex, the costs of monitoring should not be costly. It seems that this type of organization demand more outside and independent board. From the survey, we do not have the data of independent directors. It is reasonable to use whether all of directors are from election (Board Election) as a proxy the board independence. Therefore, the Board Election should be positive with performance since monitoring role is essential in groups operation.

Conducting updated financial statements which conform to the accounting standard is obviously benefits groups in making key decisions. It is expected that the association between Accounting Standard and performance should be positive. The more often regular auditing would be more effective. However, the frequency of auditing may be a result of problems or irregularities of the financial statements. Hence, it is not obvious that the association between the Auditing Frequency and performance is positive or negative.

Lastly like networking variables for the National Village and Urban Community Funds, it would be expected that knowledge development of groups indicated by Organizing Seminar, Exchange Idea, and Number of Training should have positive association with the performance of funds.

4.2 Sample

After excluding the incomplete data in the CDD survey, the resulting samples are 5,669 observations of village funds and 11,197 observations of saving groups. Table 4 and Table 5 report descriptive statistics of the village funds and saving groups, respectively.

Table 4 suggests different characteristics between the high repayment (Y=1) and low repayment (Y=3) funds. The high repayment funds tend to be in smaller villages. The mean difference of population and number of families are statistically significant at 1% level of confidence. The better repayment funds tend to be legal entity, have better performance in term of profits, less networks, and less female members. Surprisingly, the levels of development assigned by the Community Development Department are not statistically significant different between the high and low repayment.

With respect to the saving groups, Table 5 shows that there is the difference of control variables between the high repayment and low repayment funds. Those with the high repayment seem to be larger in terms of loan size, saving, number of members, and inclusive of members. The table suggests that the high repayment saving groups have better governance mechanisms in place. For example, the proportion of saving groups that all board are from election is higher for the high repayment saving groups than those of the low repayment saving groups (91.2% versus 70.0%); the proportion of saving groups that have financial statements up to date and by accounting standard is higher for those with high repayment than those of the low repayment (64.03% versus 43.64%). In addition the high repayment saving groups have better monitoring in terms of board meeting frequency, auditing frequency, as well as networking and learning.

4.3 Results

The estimated coefficients of the baseline ordinal probit regression are reported in Table 6 and Table 7 for village funds and saving groups, receptively. Model 1 to Model 6 of Table 6 presents the association of each governance variables with control variables and the funds' repayment levels. In addition, governance variables may be substitute or complementary each other, all governance variables are included in the model and reported in Model 7. Surprisingly, Table 6 models 1 through 6 reveal that each governance variables has negative association with the level of repayment rate of funds. The coefficients are negative and statistically significant at 1% for the Female Members and all networking variables, Provincial Network, District Network, and Sub-district Network. The results suggest that "too much" networking may distract management from the core operations and put more effort on political or regulatory involvements. The high proportion of female members may reflect poor economic conditions of the village since most of men (labor force) have left their villages to work in urban areas. This in turn manifests in poor performance of the funds. Also interestingly, one would expect that the level of development assigned by Community Development Department would positively associate with the repayment rate. However, the coefficients are all negative but not statistically insignificant. In Model 7 of the table, all governance variables are still negative but statistically significant at 1% for Female Member, Provincial Network, and Sub-district Network; and 10% confidence level for AAA. Overall, the results do not support the conventional believe that better governance would lead to better repayment rate of the village funds.

For the saving groups, Table 7, Model 1 to Model 4 indicate that there is the association of the director-related governance variables and the repayment. As expected, Board Election and Meeting Frequency are positively associated with the repayment, statistically significant with 1% confidence level. The Audit Committee is also positive but with 10% confidence level. The negative coefficient of Board Size is consistent with Yermack (1996); the larger board size may not lead to better performance. This evidence is also consistent with the notion of Coles et al. (2008) in that saving groups which is not complex firm, do not require larger boards.

Model 5 and Model 6 present the coefficients of accounting related governance variables. The Accounting Standard clearly has strong association with 1% confidence level. Hence, it is confirmed that accounting standard and

up to date financial statements provide an effective mechanism to improve performance. On the contrary, the Auditing Frequency is negatively associated with the repayment with 5% level of confidence. This is consistent with the notion that too many numbers of auditing means the groups may have operating problems. Furthermore, Model 7 to Model 9 reports the coefficients of knowledge development related governance variables. The results show that, as expected, there are positive associations between knowledge management and repayment rate of the saving groups.

Finally, Model 10 which includes all governance variables confirms that Board Election, Meeting Frequency, Accounting Standard, and Exchange Ideas are positively associated with the repayment and statistical confidence level at 1%. The results suggest that the board independence as reflected by Board Election and monitoring effort as reflected by Meeting Frequency is important governance mechanisms. Also important is transparency reflected by Accounting Standard variable. The Auditing Frequency is negatively associated with the repayment rate with statistical confidence level at 1%. This is consistent with the notion that the frequency of auditing may be a result of problems or irregularities of the financial statements. Interestingly, only Exchange Idea variable is statistically significant at 1% confidence level. The coefficients of Organizing Seminar and Number of Trainings are positive and negative, but not statistically significant, suggesting that the forums of exchange of ideas are more relevant than the formal form of trainings.

4.4 Additional Tests

First, to further investigate the association between governance and the repayment of these funds, the dependent variable is defined as 1 if the repayment rate of the members is greater than or equal to 90% (Y=3), and 0 otherwise. Table 8 reports the estimates of village funds while Table 9 reports those of saving groups. Overall the results are consistent with those of previous session.

Next, I examine whether governance variables provide valuable information in predicting the repayment rate. If governance is important, including these variables should improve the performance of the models based on the receiver operating characteristic (ROC) curve; the greater the area under the ROC curves the higher predictive power of the model.

Figure 1 shows the informativeness of the governance and repayment based on the ROC curves. Panel (a) and (b) show the ROC curves of the models without and with governance variables for the village funds. The area under the ROC curve with governance variables is equal to 0.6601 while the area without governance variables is 0.6021. Similar result is found for saving groups. Panel (c) and (d) show that the area under the ROC curve with governance variables is equal to 0.6268 and 0.5349 for the model without governance variables. These results indicate that the governance provides additional information. Based on Wilcoxon statistic, the p-values of the difference between the ROCs with and without governance variables are equal to 0.3644 and 0.0094 for the village funds and saving groups, respectively.
The test concludes that governance variables significantly provide more valuable information only for saving groups.

To summarize, the results show a striking contrast of governance effects on the repayment rate between the two types of microfinance institutions in Thailand. The study suggests that there is no one-size-fit-all governance mechanisms. Traditional governance structure may not be effective for organizations set up by political agenda. Designing the effective governance structure for this type of organization is more complicated than just following the best practices and check lists. This is consistent with Larker and Tayan (2011) that it is highly unlikely that a single set of best practices exists for all firms.

5. Conclusions

This study investigates the role of governance on repayment rate of two distinct types of microfinance institutions, village funds and saving groups, in Thailand. The village funds are set up and supported by the government policy while the saving groups are initiated and originated by people in the communities. Using the unique survey data of 5,669 village funds and 11,197 saving groups, the results show that the governance does not play an important role in managing the village funds. All governance variables have negative association with repayment rate. On the contrary, there are positive association of governance variables and the repayment rate of the saving funds. The results suggest that the board independence and monitoring effort are important governance mechanisms.

Overall, the study documents that traditional governance mechanisms may not be appropriate for organizations set up by political agenda. Thus, an important policy implication is that designing the effective governance structure for this type of organization is more complicated than just following the best practices and check lists. Governance is a complex and dynamic system. To improve the performance of the village funds requires more articulate governance framework and rigorous investigation.

Lastly, although the CDD survey provides us a unique opportunity to understand the role of governance of microfinance institutions, it also has certain limitation. The data do not allow the study to investigate common governance variables of both types of funds. The well design survey would provide more rigorous analysis. It should be noted that, due to the limitation of data, the study does not control for community context of funds such as cultural and variations in local economic conditions. These issues are left for future study.

Appendix: Variable Definitions

The sample consists of 5,669 National Village and Urban Community Funds and 11,197 Saving Groups for Agricultural Production during 2009 to 2011. Variable definitions of the National Village and Urban Community Funds and Saving Groups for Agricultural Production are provided in Panel A and Panel B, respectively.

Panel A: National Village and Urban Community Funds

Variables	Definitions
Governance variables	
Female Member (%)	Proportion of female members
Female Executive (%)	Proportion of female executive directors
AAA	A dummy variable equals to 1 for the highest level of development assigned by the Community Development Department, and 0 otherwise
AA	A dummy variable equals to 1 for the second highest level of development assigned by the Community Development Department, and 0 otherwise
A	A dummy variable equals to 1 for the third highest level of development assigned by the Community Development Department, and 0 otherwise
Provincial Network	A dummy variable equals to 1 if funds have network at provincial level, and 0 otherwise
District Network	A dummy variable equals to 1 if funds have network at district level, and 0 otherwise
Sub-district Network	A dummy variable equals to 1 if funds have network at sub-district level, and 0 otherwise
Control variables	
Financial Institution	A dummy variable equals to 1 if funds are upgraded to be financial institutions, and 0 otherwise

Legal Entity	A dummy variable equals to 1 if funds are registered with the Interior Ministry, and 0 otherwise
Village Fund	A dummy variable equals to 1 if funds are not operated in urban area, and 0 otherwise
Log of Profit	Natural log of funds' profit
Log of Saving	Natural log of funds' saving balance
Log of Total Asset	Natural log of funds' total asset
Population	Population of the village where funds operate
Number of Families	Number of families in the village

Panel B: Saving Group for Agricultural Production

Variables	**Descriptions**
Governance variable	
Audit Committee	A dummy variable equals to 1 if saving groups have audit committee in place, and 0 otherwise
Board Size	Number of executive directors
Board Election	A dummy variable equals to 1 if all directors are from election, and 0 otherwise
Meeting Frequency	A dummy variable equals to 1 if saving groups have board meeting every month, and 0 otherwise
Accounting Standard	A dummy variable equals to 1 if financial statements of saving groups are up to date by accounting standard, and 0 otherwise

Auditing Frequency	A dummy variable equal to 1 if financial statements are audited at least 6 times a year with an officer, and 0 otherwise
Organizing Seminar	A dummy variable equals to 1 if saving groups organized at least 3 seminars per year**,** and 0 otherwise
Exchange Idea	A dummy variable equals to 1 if funds have at least 3 forums to exchange idea with other institutions per year**,** and 0 otherwise
Number of Training	A dummy variable equals to 1 if directors of funds attended more than 3 trainings per year**,** and 0 otherwise
Control variables	
Log of Total Loan	Natural log of total loan of saving group
Log of Saving	Natural log of saving balance of saving groups
Number of Members	Number of members of saving groups
Member Saving	A measure of inclusiveness. A dummy variable equals to 1 if more than 75% people in the village are members of saving groups**,** and 0 otherwise

Reference

Adams R., Ferreira D., 2009. Women in the boardroom and their impact on governance and performance. Journal of Financial Economics 94, 291–309.

Bauchet, J., Marshall, C., Starita, L., Thomas, J., Yalouris, A., 2011. Latest Findings from Randomized Evaluations of Microfinance. Reports by CGAP and Its Partners, Number 2.

Boone, A., Field, L., Karpoff, J., Raheja, C., 2007. The determinants of corporate board size and composition: an empirical analysis. Journal of Financial Economics 85, 66–101.

Carter, D., Simkins, B., Simpson, W., 2003. Corporate governance, board diversity, and firm value. Financial Review 38, 33–53.

Coles, J., Daniel, N., Naveen, L., 2007. Boards: does one size fit all? Journal of Financial Economics 87, 329–356.

Cooke, P. and Morgan, K., 1998. The Associational Economy. Oxford: Oxford University Press.

D'Espallier, B., Guérin, I., Mersland R., 2011. Women and Repayment in Microfinance: A Global Analysis. World Development 39, 758–772.

De la Mothe, J. and Paquet, G., 1996. Evolution and inter-creation: the Government-business -society nexus, in J. De la Mothe and G. Paquet (Editors) Evolutionary Economics and the New International Political Economy, pp. 9–34. London: Pinter.

De la Huerta, A., 2010. Microfinance in Rural and Urban Thailand: Policies, Social Ties and Successful Performance, Doctoral Dissertation 3472986, University of Chicago, Chicago, USA.

Fields, M., Keys, P., 2003. The emergence of corporate governance from Wall St. to Main St.: outside directors, board diversity, earnings management, and managerial incentives to bear risk. Financial Review 38, 1–24.

Jensen, M., 1993. The modern industrial revolution, exit, and the failure of internal control systems. The Journal of Finance 48, 831-880.

Linck, J., Nettera, J., Yang, T., 2008. The determinants of board structure. Journal of Financial Economics 87 (2008) 308–328

Klein, A., 2002. Audit committee, board of director characteristics, and earnings management. Journal of Accounting and Economics 33, 375–400.

Postelnicu, L., 2012. Social capital and repayment performance of group lending in microfinance. Center Emile Bernheim, Research Institute in Management Science. Solvay Brussels School of Economics and Management. Working Paper Number 012/32.

Stulz, R., 2005. The limits of financial globalization. Journal of Finance, 1595-1638.

Yermack, D., 1996. Higher valuation of companies with a small board of directors. Journal of Financial Economics 40, 185–212.

Vafeas, N., 1999. Board meeting frequency and firm performance. Journal of Financial Economics 53, 113-142.

Table 1
Microfinance institutions in Thailand

The table presents microfinance institutions in Thailand, excluding the formal financial institutions (commercial banks and the state financial institutions). The quasi-formal institutions include those set up by the government under certain decree such as village funds operated by the National Village and Urban Community Fund Office, Cooperatives, and Credit Unions. The informal institutions are those set up by people in the community.

Types of Institutions	Number of Institutions	Members (million)	Size (million baht)
Savings Groups for Agricultural Production	34,530	4.51	25,247.74
Savings Groups in Urban Area	1,826	0.90	3,850.40
Cooperatives and Credit Unions	1,334	1.14	26,014.00
National Village and Urban Community Funds	79,255	12.04	98,214.00
Village Banks	2,836	0.27	597.50
Total	119,781	18.86	153,923.64

Source: Organizations Development Institute and Urban Community Development Office

Table 2
Descriptive Statistics of National Village and Urban Community Funds Survey

The table reports descriptive statistics of the National Village and Urban Community Funds annual survey by the Community Development Department (CDD) under the Ministry of Interior during 2009 to 2011. Panel A reports general characteristics of the funds. Panel B and C reports the size and operating performance of the funds, respectively. The reported statistics exclude the incorrect type of answers and missing data, and are winsorized at 97.5%. The observations for year 2009, 2010 and 2011 are 7,329 funds, 52,539 funds and 63,353 funds, respectively. The summary in the table excludes missing data points.

Panel A: General Characteristics

Status	2009	2010	2011
Being a village fund	94.40%	95.64%	95.30%
Being a member of a province network	27.59%	33.28%	37.66%
Being a member of a district network	57.71%	63.17%	66.68%
Being a member of a sub-district network	89.16%	92.14%	93.35%
Being a legal entity	95.61%	97.01%	97.26%
Being upgraded to a financial institution	2.02%	3.13%	4.55%
Development grade AAA	24.74%	31.95%	31.66%
Development grade AA	71.77%	63.02%	63.47%
Development grade A	3.50%	5.03%	4.87%

Panel B: Size-related Characteristics

Status	2009			2010			2011		
	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Number of families	34	126	354	36	126	360	36	127	364
Population	93	477	1,447	95	471	1,276	82	463	1,274
Executive board	2	6	11	3	7	11	3	7	11
- Male	2	6	9	2	6	9	2	6	9
- Female									
Executive board size	9	11	15	9	12	15	9	12	15

Status	2009			2010			2011		
	Min	**Mean**	**Max**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Max**
Number of members	15	53	128	16	55	144	17	55	148
- Male	16	60	149	15	58	153	17	59	153
- Female									
Savings balance	1,616	150,152	1,018,909	932	140,984	936,680	0	133,978	852,598

Panel C: Operating Performance Characteristics

Status	2009			2010			2011		
	Min	**Mean**	**Max**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Max**
Profit	6,000	247,506	1,413,600	2000	279,256	1,460,000	0	261,538	1,470,000
Number of loans	15	70	140	22	71	142	20	73	157
Number of repaid loans	0	65	140	4	69	140	0	67	157
Number of unpaid loans	0	45	127	0	45	126	0	52	179
Number of 3-month or more unpaid loans	0	44	138	0	45	168	0	47	180

Table 3
Descriptive Statistics of Savings Groups for Agricultural Production Survey

The table reports statistics of the Savings Groups for (Agricultural) Production annual survey by the Community Development Department (CDD) under the Ministry of Interior during 2009 to 2011. Panel A reports general characteristics of the groups. Panel B reports operating performance while management and operations of the groups are reported in Panel C. The reported statistics exclude the incorrect type of answers and missing data, and are winsorized at 97.5%. The observations for year 2009, 2010 and 2011 are 4,018 groups, 31,073 groups and 31,963 groups, respectively. The summary in the table excludes missing data points.

Panel A: General Characteristics

Status	2009			2010			2011		
	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Savings balance	20,000	725,457	10,187,500	16,400	481,627	4,705,000	19,920	522,741	5,457,510
Executive board size	5.00	12.84	24.00	7	13	20	7	13	20
Number of members	27.0	136.3	637.0	28	120	460	28	121	475
Total loan balance	0	654,491	8,705,000	0	400,245	3,875,000	0	404,506	4,200,500

Panel B: Operating Performance

	2009	2010	2011
	Percentage	Percentage	Percentage
Members repay			
- repay less than 60%	1.58%	2.13%	2.10%
- repay 60-89%	18.86%	16.31%	16.46%
- repay greater than or equal to 90%	79.56%	81.56%	81.44%

Panel C: Management and Operations

Status	2009	2010	2011
	Percentage	**Percentage**	**Percentage**
Having auditing committee	99.73%	99.77%	99.80%
Having supporting committee	99.64%	99.64%	98.01%
Maintaining account receivable control	96.32%	97.22%	97.41%
Maintaining interest control	84.58%	86.71%	87.70%
Maintaining investment control	90.67%	89.68%	90.27%
Maintaining expenditure and asset record keeping	90.91%	91.77%	91.73%
Maintaining profit and loss account	82.75%	87.88%	88.63%
Maintaining balance sheets	84.57%	85.54%	86.40%
Fraction of elected executive board			
- Less than 50%	0.88%	1.35%	1.90%
- 50%-99%	13.92%	12.40%	12.41%
- 100%	85.20%	86.25%	85.69%
Frequency of board meetings			
- 1-2 times a year	12.47%	8.63%	9.08%
- Every quarter	22.28%	19.34%	19.58%
- Every month	65.25%	72.03%	71.34%
Fraction of members that are local people			
- Less than 50%	7.64%	9.42%	9.95%
- 50%-75%	19.78%	21.87%	22.10%
- Greater than 75%	72.58%	68.71%	67.95%
Completeness of accounting and control			
- Maintaining accounting practice	5.93%	5.66%	5.27%
- Maintaining up-to-date accounting practice	39.49%	35.89%	36.36%
- Maintaining high standard up-to-date accounting practice that	54.58%	58.44%	58.36%

Status	2009	2010	2011
	Percentage	Percentage	Percentage
Frequency of account audits			
- 1-2 times a year	18.59%	16.04%	16.55%
- 3-5 times a year	40.11%	37.97%	38.32%
- 6 times or more a year	41.30%	46.00%	45.13%
Frequency of trainings			
- Once a year	20.17%	20.47%	20.68%
- Twice a year	44.83%	42.58%	42.73%
- 3 times or more a year	35.01%	36.95%	36.59%
Exchanges ideas with other organizations			
- Once a year	16.15%	16.47%	16.47%
- Twice a year	46.86%	43.25%	44.29%
- 3 times or more a year	36.99%	40.28%	39.24%
Organizing seminars			
- Within the savings group	17.94%	14.77%	15.12%
- Within the savings group and also with other savings groups	48.51%	44.55%	45.44%
- Within the savings group, with other savings groups and other financial institutions	33.55%	40.68%	39.44%

Table 4
Repayment and Governance of National Village and Urban Community Funds

The table reports the average of the repayment and governance variables of the National Village and Urban Community Funds. The sample consists of 5,669 funds that have complete data during 2009-2011. Y is the repayment variable. Specifically, Y = 1 if the repayment rate of the fund members is less than 60%; 2 if the repayment rate of the fund members is between 60% and 89%; 3 if the repayment rate of the fund members is greater than or equal to 90%. Other variable descriptions are in Panel A of the Appendix. *p*-values are in parentheses and *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variables	Y=1 (1)	Y=2 (2)	Y=3 (3)	Y=1, 2 (4)	Overall Sample	(3) - (1) (*p*-value)	(3) - (4) (*p*-value)
Control Variables							
Financial Institution	2.35%	1.84%	2.09%	2.14%	2.10%	-0.26% (0.7328)	-0.05% (0.9330)
Legal Entity	95.04%	95.96%	99.24%	95.42%	98.80%	4.20%*** (0.0000)	3.82%*** (0.0000)
Village Fund	97.65%	97.43%	97.55%	97.56%	97.55%	-0.10% (0.9027)	-0.01% (0.9876)
Log of Profit	11.97	11.84	12.11	11.92	12.09	0.14** (0.0222)	0.19 *** (0.0001)
Log of Savings	11.34	11.25	11.32	11.31	11.31	-0.02 (0.7449)	0.01 (0.8421)
Population	510.05	545.68	446.34	524.85	455.41	-63.71*** (0.0000)	-78.51*** (0.0000)
Number of Families	133.70	141.23	118.37	136.82	120.50	-15.33*** (0.0000)	-18.45*** (0.0000)
Governance Variables							
Female Members (%)	53.84%	53.73%	51.68%	53.79%	51.92%	-0.02*** (0.0001)	-0.02*** (0.0000)
Female Executives (%)	46.60%	46.81%	45.73%	46.69%	45.84%	-0.01 (0.1779)	-0.01* (0.0673)
AAA	37.34%	33.46%	34.26%	35.73%	34.43%	-3.08% (0.2216)	-1.47% (0.4565)
AA	59.79%	63.97%	62.27%	61.53%	62.18%	2.48% (0.3349)	0.74% (0.7134)
A	2.87%	2.57%	3.47%	2.75%	3.39%	0.60% (0.5339)	0.72% (0.3380)

Provincial Network	53.52%	46.69%	34.32%	50.69%	36.21%	-19.20%*** (0.0000)	-16.37%*** (0.0000)
District Network	80.68%	71.32%	66.49%	76.79%	67.68%	-14.19%*** (0.0000)	-10.30%*** (0.0000)
Sub-district Network	96.61%	95.96%	91.70%	96.34%	92.24%	-4.91%*** (0.0006)	-4.64%*** (0.0000)

Table 5
Repayment and Governance of Savings Groups for Agricultural Production

The table reports the average of the repayment and governance variables of the Savings Groups for (Agricultural) Production. The sample consists of 11,197 savings groups which have complete data during 2009-2011. Y is the repayment variable. Specifically, Y = 1 if the repayment rate of the fund members is less than 60%; 2 if the repayment rate of the fund members is between 60% and 89%; 3 if the repayment rate of the fund members is greater than or equal to 90%. Other variable descriptions are in Panel B of the Appendix. *p*-values are in parentheses and *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variables	Y=1 (1)	Y=2 (2)	Y=3 (3)	Y=1, 2 (4)	Overall Sample	(3) - (1) (*p*-value)	(3) - (4) (*p*-value)
Control Variables							
Log of Total Loans	11.74	12.19	12.30	12.16	12.28	0.56*** (0.0000)	0.14*** (0.0000)
Log of Savings	12.06	12.45	12.59	12.43	12.56	0.53*** (0.0000)	0.16*** (0.0000)
Number of Members	88.98	123.07	127.75	120.92	126.69	38.77*** (0.0000)	6.83*** (0.0000)
Member Savings Group	41.82%	71.17%	70.92%	69.31%	70.67%	29.10%*** (0.0000)	1.61%** (0.0153)
Governance Variables							
Board of Directors							
Audit Committee	99.09%	99.82%	99.93%	99.77%	99.90%	0.84%*** (0.0019)	0.16%*** (0.0044)
Board Size	12.41	13.23	12.98	13.18	13.01	0.57* (0.0984)	-0.20*** (0.0000)
Board Election	70.00%	78.53%	91.22%	77.99%	89.17%	21.22%*** (0.0000)	13.23%*** (0.0000)
Meeting Frequency	47.27%	72.64%	75.84%	71.03%	75.09%	28.57%*** (0.0000)	4.81%*** (0.0000)
Accounting							
Accounting Standard	43.64%	54.17%	64.03%	53.51%	62.39%	20.39%*** (0.0000)	10.52%*** (0.0000)
Auditing Frequency	65.45%	89.63%	86.09%	88.10%	86.41%	20.64%*** (0.0000)	-2.01%*** (0.0000)
Network and Learning							

Variables	Y=1 (1)	Y=2 (2)	Y=3 (3)	Y=1, 2 (4)	Overall Sample	(3) - (1) (*p*-value)	(3) - (4) (*p*-value)
Seminars organized	25.45%	36.75%	45.31%	36.03%	43.87%	19.86%*** (0.0000)	9.28%*** (0.0000)
Idea Exchange	29.09%	40.00%	43.80%	39.31%	43.10%	14.71%*** (0.0020)	4.49%*** (0.0000)
Number of Trainings	25.45%	39.75%	40.95%	38.85%	40.63%	15.50%*** (0.0010)	2.10%*** (0.0031)

Table 6
Ordinal Probit Analysis of Repayment and Governance: National Village and Urban Community Funds

The table presents ordinal probit regression estimates of 5,669 funds during 2009-2011. The dependent variable (Y) is the credit rating categorized into 1, 2 and 3 where 3 indicates the highest credit rate. Specifically, Y = 1 if the repayment rate of the members is less than 60%; 2 if the repayment rate of the members is between 60% and 89%; 3 if the repayment rate of the members is greater than or equal to 90%. The independent variable definitions are in the Appendix. *p*-values are in parentheses and *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Female Members (%)	-1.9986*** (0)						-2.061*** (0)
Female Executives (%)		-0.5578* (0.0736)					-0.1625 (0.6231)
AAA			-0.9515 (0.3414)				-0.1564* (0.0798)
Provincial Network				-0.6879*** (0)			-0.5756*** (0)
District Network					-0.5247*** (0)		-0.146 (0.2141)
Sub-district Network						-0.8481*** (0)	-0.6739*** (0.0013)
Control Variables							
Financial Institution	0.02 (0.9451)	0.0574 (0.8427)	0.2417 (0.809)	0.1386 (0.6329)	0.0606 (0.8342)	0.0295 (0.9189)	0.1173 (0.688)
Legal Entity	1.6591*** (0)	1.6208*** (0)	7.0883*** (0)	1.8035*** (0)	1.6245*** (0)	1.637*** (0)	1.8384*** (0)
Village Fund	-0.0605 (0.8072)	-0.0563 (0.8189)	-0.2198 (0.826)	0.0435 (0.8599)	-0.0227 (0.9262)	-0.0214 (0.9315)	0.0924 (0.717)
Log of Profit	0.1158*** (0.0002)	0.1113*** (0.0002)	3.841*** (0.0001)	0.0813*** (0.0066)	0.0994*** (0.0008)	0.1062*** (0.0004)	0.0843*** (0.0073)

Log of Savings	0.0442	0.0288	0.8835	0.0167	0.02	0.018	0.0366
	(0.1577)	(0.3468)	(0.377)	(0.5829)	(0.5074)	(0.5525)	(0.2508)
Population	-0.0011***	-0.0011***	-3.5787***	-0.0012***	-0.0012***	-0.0011***	-0.0012***
	(0.0005)	(0.0003)	(0.0003)	(0.0001)	(0.0001)	(0.0005)	(0.0002)
Number of Families	-0.0012	-0.0012	-1.0608	-0.0007	-0.0011	-0.0014	-0.0007
	(0.3137)	(0.3139)	(0.2888)	(0.5563)	(0.3841)	(0.2509)	(0.5844)
Intercept (□1)	-0.9186***	-0.4024***	-0.1696***	-0.6437***	-0.7446***	-1.075***	-2.1885***
	(0)	(0)	(0.0004)	(0)	(0)	(0)	(0)
Intercept (□2)	-0.3126***	0.2014***	0.434***	-0.0351	-0.1387**	-0.4702***	-1.576 ***
	(0.0004)	(0.0012)	(0)	(0.5491)	(0.0158)	(0)	(0)

Table 7
Ordinal Probit Analysis of Repayment and Governance: Savings Group for Agricultural Production

The table presents ordinal probit regression estimates of 11,197 savings groups during 2009-2011. The dependent variable (Y) is the credit rating categorized into 1, 2 and 3 where 3 indicates the highest credit rate. Specifically, Y = 1 if the repayment rate of the members is less than 60%; 2 if the repayment rate of the members is between 60% and 89%; 3 if the repayment rate of the members is greater than or equal to 90%. The independent variable definitions are in the Appendix. *p*-values are in parentheses and *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Audit Committee	1.1846* (0.0629)									0.6783 (0.3194)
Board Size		-0.0209** (0.0132)								-0.0127 (0.1411)
Board Election			1.0659*** (0)							0.9973*** (0)
Meeting Frequency				0.2439*** (0)						0.2155*** (0.0004)
Accounting Standard					0.4191*** (0)					0.3904*** (0)
Auditing Frequency						-0.1816** (0.0236)				-0.297*** (0.0004)
Seminars Organized							0.173*** (0.0012)			0.0581 (0.3928)
Idea Exchange								0.3777*** (0)		0.2947*** (0)
Number of Training									0.0761	-0.0706

									(0.1558)	(0.2872)
Control Variables										
Log of Total Loans	0.0041	0.0016	-0.0069	0.003	0.007	0.005	0.0044	0.0003	0.0038	-0.009
	(0.918)	(0.9688)	(0.8667)	(0.9405)	(0.8622)	(0.9)	(0.913)	(0.9932)	(0.9251)	(0.8304)
Log of Savings	0.1152***	0.1157***	0.1099***	0.1144***	0.0947***	0.1156***	0.1124***	0.1106***	0.1148***	0.0882*
	(0.0112)	(0.011)	(0.0179)	(0.012)	(0.0383)	(0.0109)	(0.0134)	(0.0153)	(0.0114)	(0.0601)
Number of Members	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0003
	(0.7919)	(0.6468)	(0.6299)	(0.8652)	(0.7971)	(0.7458)	(0.8612)	(0.7468)	(0.807)	(0.504)
Member Savings	0.0643	0.0669	0.034	0.0477	0.0839	0.0735	0.0653	0.0648	0.0618	0.0529
	(0.2604)	(0.2412)	(0.5563)	(0.4055)	(0.1431)	(0.1989)	(0.2533)	(0.2575)	(0.2799)	(0.368)
Intercept (□1)	-1.883***	-3.032***	-2.394***	-2.928***	-3.018***	-3.03***	-3.048***	-3.198***	-3.353***	-1.9838***
	(0.009)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0.0097)
Intercept (□2)	1.0407	-0.1025	0.558	-0.003	-0.0893	-0.1062	-0.1237	-0.2748	-0.429	0.9837
	(0.1462)	(0.7607)	(0.1024)	(0.9928)	(0.7905)	(0.7519)	(0.7126)	(0.4209)	(0.2284)	(0.1966)

Table 8
Alternative Probit Regression: National Village and Urban Community Funds

The table presents probit regression estimates, using the alternative definition of repayment. Specifically, the dependent variable (Y) is the repayment = 1 if the repayment rate of the members is greater than or equal to 90% and 0, otherwise. *p*-values are in parentheses and *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Female Members (%)	-1.0349***						-1.0573***
	(0)						(0)
Female Executives (%)		-0.3165*					-0.1215
		(0.0624)					(0.4921)
AAA			-0.0414				-0.0734
			(0.3743)				(0.1218)
Provincial Network				-0.3688***			-0.311***
				(0)			(0)
District Network					-0.2729***		-0.0745
					(0)		(0.2139)
Sub-district Network						-0.4392***	-0.335***
						(0)	(0.0015)
Control Variables							
Financial Institution	0.0217	0.0365	0.041	0.0871	0.048	0.0213	0.0805
	(0.8875)	(0.8114)	(0.7887)	(0.5723)	(0.7551)	(0.8895)	(0.6052)
Legal Entity	0.9899***	0.9717***	0.9706***	1.0763***	0.9832***	0.9796***	1.0915***
	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Village Fund	-0.0382	-0.036	-0.0364	0.0283	-0.0175	-0.0188	0.0534
	(0.7919)	(0.8036)	(0.8014)	(0.8462)	(0.9036)	(0.8966)	(0.7139)
Log of Profit	0.0626***	0.0611***	0.0622	0.0449	0.0538***	0.0597	0.0463**
	(0.0013)	(0.0015)	(0.0012)	(0.0224)	(0.0057)	(0.0019)	(0.0193)
Log of Savings	0.0228	0.0162	0.0147	0.0112	0.0129	0.01	0.0211

	(0.2126)	(0.3727)	(0.4201)	(0.5415)	(0.4818)	(0.5816)	(0.2557)
Population	-0.0006***	-0.0006***	-0.0006	-0.0007	-0.0007***	-0.0006***	-0.0007***
	(0.0004)	(0.0002)	(0.0003)	(0.0001)	(0.0001)	(0.0004)	(0.0001)
Number of Families	-0.0006	-0.0006	-0.0006	-0.0003	-0.0005	-0.0007	-0.0003
	(0.359)	(0.3709)	(0.338)	(0.63)	(0.4566)	(0.295)	(0.6642)
Intercept	0.1662	-0.1111	-0.2366	-0.0248	0.0437	0.2193	0.7785**
	(0.6546)	(0.7617)	(0.5115)	(0.946)	(0.9053)	(0.5608)	(0.0493)

Table 9
Alternative Probit Regression: Savings Group for Agricultural Production

The table presents probit regression estimates, using the alternative definition of repayment. Specifically, the dependent variable (Y) is the repayment = 1 if the repayment rate of the members is greater than or equal to 90% and 0, otherwise. *p*-values are in parentheses and *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

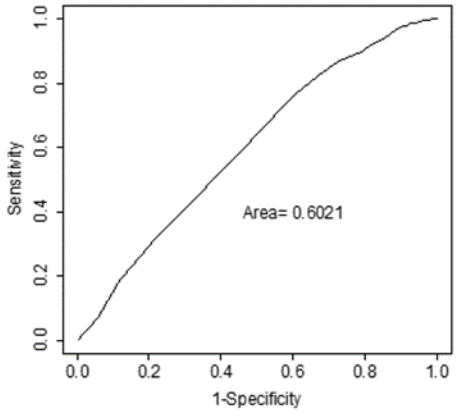
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Audit Committee	0.633 (0.1025)									0.3536 (0.3789)
Board Size		-0.0116** (0.0128)								-0.0084* (0.0776)
Board Election			0.6114*** (0)							0.5722*** (0)
Meeting Frequency				0.1263*** (0.0001)						0.1107*** (0.0011)
Accounting Standard					0.2289*** (0)					0.2108*** (0)
Auditing Frequency						-0.1111** (0.0103)				-0.1837*** (0.0001)
Seminars Organized							0.0924*** (0.0016)			0.0291 (0.4349)
Idea Exchange								0.2059*** (0)		0.164*** (0)
Number of Training									0.0386 (0.1897)	-0.038 (0.297)
Control Variables										
Log of Total Loans	0.0019 (0.9318)	0.0015 (0.9447)	-0.0026 (0.9078)	0.0012 (0.9562)	0.0033 (0.8834)	0.003 (0.8906)	0.002 (0.9288)	0.0001 (0.9979)	0.0017 (0.9394)	-0.0023 (0.9194)
Log of Savings	0.0625** (0.0125)	0.0618** (0.0135)	0.0585** (0.0214)	0.0618** (0.0136)	0.0516** (0.0405)	0.0619** (0.0133)	0.0609** (0.015)	0.0606** (0.0157)	0.0623** (0.0128)	0.045* (0.0792)
Number of Members	0 (0.8873)	0.0001 (0.7567)	0.0001 (0.7029)	0 (0.9404)	0	0.0001 (0.8214)	0 (0.9423)	0.0001 (0.8293)	0 (0.9031)	0.0001 (0.5551)

					(0.9067)					
Member Savings	0.0287 (0.3625)	0.0318 (0.313)	0.0058 (0.8567)	0.0183 (0.5643)	0.0376 (0.2355)	0.0365 (0.248)	0.0292 (0.3553)	0.0277 (0.3811)	0.0275 (0.3846)	0.0189 (0.5597)
Intercept	-0.4481 (0.2939)	0.3413 (0.0816)	-0.229 (0.2249)	0.117 (0.5293)	0.1623 (0.3819)	0.2663 (0.1565)	0.1659 (0.3703)	0.1435 (0.4387)	0.1754 (0.3431)	-0.4014 (0.3648)

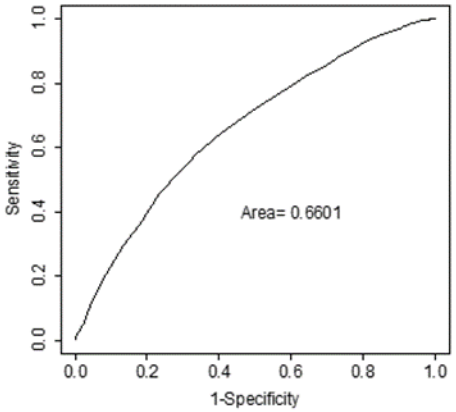
Figure 1
Informativeness of Governance on Repayment

These figures show the receiver operating characteristic (ROC) curves of the models. Figure (a) and (b) show the ROCs of National Village and Urban Community Funds without and with governance variables, respectively. Figure (c) and (d) show the ROCs of the Savings Groups for Agricultural Production without and with governance variables, respectively.

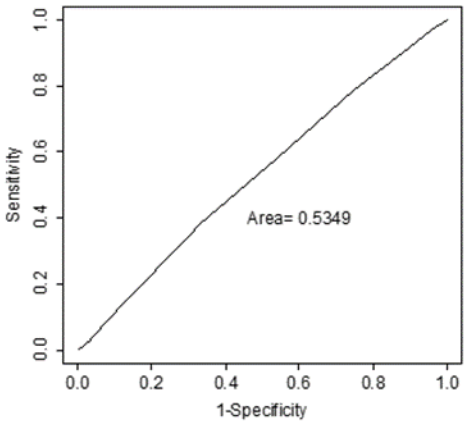
(a) National Villages without Governance Variables



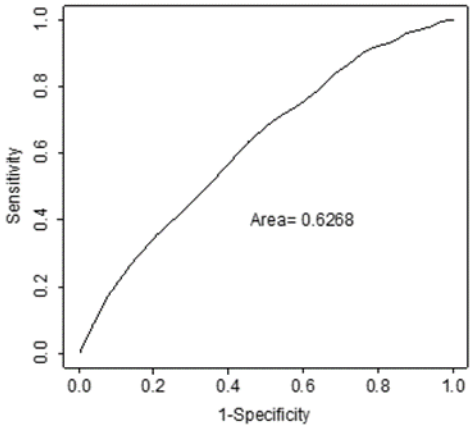
(b) National Villages with Governance Variables



(c) Savings Groups without Governance Variables



(d) Savings Groups with Governance Variables



Determinant of Tendency towards social media tools usage: Moderating role of Trust in Saudi Communication Sector

Wael Basri
Northern Borders University, Arar, Saudi Arabia
Wael Basri, College of Business Administration
Northern Borders University, Arar, Saudi Arabia

ABSTRACT

Purpose: This study sought to examine the relationship between predictors of social media application usage; these constructs include usefulness, ease of use, effectiveness of collaboration and communication among communication sector of Saudi Arabia with moderating role of trust on tendency towards usage of social media tools as latest technology advancements.

Design/methodology/approach– self administrated questionnaire was used for data collection from Saudi communication sector. Cross sectional research was conducted and participants were voluntarily participated and completed questionnaire.

Findings– relationships and proposed framework was examined by using SMART-PLS (Measurement Model, Structural Equation Model). Reliability, composite reliability and discriminate validity; further, hypothesis testing was examined in structural model and direct effect and indirect effects (moderating role) has been examined and found significant relation between constructs, but moderating role of trust was not significant.

Originality/value– This study provides what is perhaps the first empirical test of the joint contribution of usefulness, ease of use, effective collaboration and communication with moderating role of trust on adoption and tendency of social media usage in Saudi context. In addition, the findings of the study extend the literature on tendency of social media usage.

Keywords: Usefulness (UF), Ease of Use (EoU), Collaboration (Col), Communication (Comm), Trust (TR), Tendency towards social Media (TSM)

Paper type: Research paper

Introduction:

Internet has enabled huge population to use online facilities for purchasing or availing various services, another phenomenon has been observed during recent years that huge population and business activities has taken place on social media including Face-book, Twitter, LinkedIn and You-tube. Easy access of internet has increased massively social media usage during recent years (Karikari, Osei-Frimpong, & Owusu-Frimpong, 2017). Rapid growth of internet usage has been observed in past decades and now more than half of world's population has access to internet (Internet World Stats, 2018). A huge population of internet users also has access and users of social media platforms as well; social media includes Face-book, Twitter, LinkedIn and You-tube. Social media platforms have gained significant importance in recent decade and became extremely popular due to capability of content sharing and Web 2.0 technology. Internet usage statistics shows interesting figures that there are more than 2 billion Face-book users, more than 300 million Twitter active accounts, more than 500 million Google+ users and more than 400 million LinkedIn users (InternetLiveStats, 2018). Rapidly increased number of users at social media shows its emergence around the world, however, it was created for social communication and interaction. With the passage of time scholars have realized its wider importance for any field as it possess advantages as compare to traditional communication tools. These tools now widely used for professional activities; due to it's easily availability of internet, ease of use, usefulness of social media for social collaboration and communication (Berger, 2017; Forbes, 2017; Tess, 2013). Social media has penetrated in society and widely used around the world and believed to be effective and rapid way of communication; hence in literature there is no consensus on drivers of social media adoption and tendency of its usage. There is lack of literature which depicts impact of social media usage on performance related outcomes of any sector including education services, health services, telecommunication services or production. However, there are

studies found in literature with effective role of social media in academic performance at higher education sector (Sobaih, Moustafa, Ghandforoush, & Khan, 2016), contrary; scholars have rejected any relation between social media usage and performance (Lau, 2017). Therefore, researcher in present study intends to examine the relationship between social media and performance related outcomes in context of tendency of social media usage and adoption in Saudi Arabia context. The study attempts to explore relation between factors influencing adoption of social media.

In general, social media is used for interaction and collaboration in community. The role of social media in communication sector for information sharing purpose was over looked since and relatively less discussed (Hrastinski & Aghaee, 2012). Researchers have reported ambiguity in suggestion of key determinants of social media; which includes in learning, knowledge and education (Selwyn, 2012). However, literature has discussed the role and importance of social media usage in various sectors; and stressed on adoption of social media (Hopp & Gangadharbatla, 2016; Kwahk & Park, 2016; Maresh-Fuehrer & Smith, 2016). There is lack of research on social media adoption in communication sector and limited literature discussed the phenomenon (Forkosh-Baruch & Hershkovitz, 2012). Social media can be used and utilized for sharing knowledge among communication sector (Chen & Burns Gilchrist, 2013). The present study intends to explore the social media adoption in academic sector of Saudi Arabia; the study will be helping in validation of adoption of social media by academic community, through motivational determinants of social media.

Technology emergence in environment has changed the basis of competition and social media largely based on technology availability and usage. Social media sites found to be helping for students in educational sector for information sharing as majority of students have access to internet and social media access including Face-book and Twitter. Recent a research conducted in United States which shows that 53% of young adults use Instagram, Face-book and Twitter according to the Pew Research Center, the study was conducted in United States (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). These days' students focus on technological aspects for learning which includes social media (Face-book, Twitter, and LinkedIn). Student at higher education access to technology at home or institutes through various devices such as cell phones, personal computer or laptops and multi-media devices (Moore, Fowler, Jesiek, Moore, & Watson, 2008). A large number of students plugged into social media such as Face-book, Twitter, Instagram and LinkedIn for communication and interaction socially (Rhoades, Friedel, & Irani, 2008). Social media is different than traditional media due to its large scale usage which allows students to interact socially with their colleagues and teachers to get engage in knowledge sharing activities (DeAndrea, Ellison, LaRose, Steinfield, & Fiore, 2012). Social media applications enable students to initiate conversation and sharing information with their friends or with their teachers outside class room premises which offer opportunities for students to share information rapidly as compare to traditional media (Stageman, 2011). Social media applications enable students to interact and invest their time and energy to share material and messages among them for enhancing their efficiency and progress (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). The study has been conducted on perceptions of students about social media and found positive influence which increased their willingness to embrace social media for sharing their information and course contents (Browning, Gerlich, & Westermann, 2011).

Studies have shown impact of social media on business activities such as for new business startup and to acquire customers at wider range. Technological advancements enable business owners to increase rapid connectivity with individuals and group them through mobile phones while providing low cost medium using internet WiFi. Social networking has rapidly increased during last decade due to Face-book, Twitter and blogging, as usage of social media enabled entrepreneurs to adopt new ways and initiatives to conduct business. Social media has served business world as new platform for marketing, business activities and for introducing their products, feedback from customers can also be incorporated by social media regarding the service or product sold (Rusnifaezah, 2011). The scholars have depicted that various benefits can be harvested by entrepreneurs and business owners through usage of social media. Social media platform has presented completely new opportunity and rapidly deliver messages and contents to millions of people (Arshad & Akram, 2018). Rapid growth of internet and technology has given rise to usage of social media and search engines (Xiang & Gretzel, 2010). Social media enables effective communication between firms and customer while allow them interact directly and quickly. Literature has shown that social media provides successful platform for marketing and advertising to reach large number of target market while keeping the cost low. All examples of social media such as Face-book, Twitter, Instagram, LinkedIn and You-tube still found to be emerging and wide usage for conducting marketing business activities (Alansari, Velikova, & Jai, 2018).

Business trade activities and increase in world tourism, increase has been observed in number of hotels in Saudi Arabia. Number of tourists has increased in Saudi Arabia during recent years and according to World Trade and

Tourism Council (2015) increase in visitors are mainly due to business initiatives and tourism which needs hotels to be settled down for tourists, the rise is expected to be increased up to 22 million international tourists in 2025. Saudi Arabia is known for religious tourism for Muslim population around the world as they wish to visit holy places named as Makkah and Madinah. These cities has large number of hotels to settle down religious tourists near these holy places (Statista, 2016). On the other hand, Riyadh has business potential in Saudi Arabia, and attracted huge number of business tourists, business activities in Riyadh and Jeddah makes these cities more profitable and attractive for business entrepreneurs (Statista, 2016). For settling down large number of religious and business tourists, Saudi Arabia has decided to developed and increase number of hotels in busy cities. Tourists around the world use social media for identifying tourist places or to use social media for hotel booking online. Social media and its effectiveness for information sharing still untapped and lack of research on social media practices encouraged researcher to conduct empirical examination on role of social media in Saudi context. Measuring the effectiveness of social media remained a challenge for researchers that how social media plays important role in conducting business activities (Mickey, 2011). There is lack of empirical studies to examine social media effectiveness in hospitality sector or any other sector (Aluri, Slevitch, & Larzelere, 2015; Leung, Bai, & Stahura, 2015) of Saudi Arabia. It has been reported that 61% of business executives claimed that one of their top obstacles faced is social media effectiveness and its measure (Mickey, 2011).

It has been suggested to examine role of social media in private communication sector and other sectors and contexts to generalize the findings, further it has been suggested to examine comparative studies on the role of social media usage and to empirically examine impact of social media on performance of firms (Alshuaibi, 2015). Previous studies have depicted that lack of knowledge on relationships between social media and performance related constructs such as on effectiveness of social media. Current study is one of pioneer study to empirically examine the relationship between social media adoption or tendency to use social media in Saudi context, the study also entails influential variables including usefulness of social media, ease of use, collaboration and communication factors in adoption of social media with moderating role of trust. The study is unique in examining the current set of variables as previous studies stated mixed findings.

Problem Statement:

Usage of social media has increased extensively in general public which includes students, faculty, customers and business entrepreneurs around the world. However, there is paucity of research on effects of social media and influential factors towards adoption of social media usage for organizational success and performance (Junco, 2015). Moreover, there are mixed findings reported on relationships of constructs and doesn't produce consistent results. Few researchers have stated positive relationship between social media integration and learning and positive link between social media usage and performance of firms (Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015; Al-rahmi, Othman, Yusof, & Musa, 2015; Yu, Tian, Vogel, & Kwok, 2010). Contrary, negative relationships have been found by various researchers between social media usage and performance of organizations (Akyildiz & Argan, 2012; Hamat, Embi, & Hassan, 2012; Junco, 2015). Similarly, there are few studies conducted to examine the same relationship but found no link and relation (Alwagait, Shahzad, & Alim, 2015; Hargittai & Hsieh, 2010; Ozer, Karpinski, & Kirschner, 2014). There is lack of knowledge and empirical findings about social media adoption in Saudi Arabia and influential factors contribute in adoption of social media for business activities. To address this call and need for research it was intended to conduct current study for examining relationship between social media adoption influenced by usefulness, ease of use, collaboration and communication with moderating role of trust.

Development of knowledge based society enable a country to diversify if economic activities and reduce their dependency on manufacturing and exports. Recently, with the emergence of social media researchers have considered experiments on social media involvement in business activities (Barbour & Reeves, 2009). Researchers have stated that integration of social media found to be helping in learning and increase efficiency and effectiveness (Harris, 2012). Scholars have recommended employing self-determination theory (SDT) for underpinning the notion of impact of social media in increase in learning of employees, previous rarely scholars used SDT for explaining the role of social media and its impact on performance related outcomes (Fredricks & McColskey, 2012).

So, researcher intends to contribute self-determination theory by integrating social media and adoption of social media in Saudi context. The study entails usefulness, ease of use, collaboration and communication as influential towards adoption of social media for business activities and trust has been considered as moderator in explaining the relationship between these constructs. The present set of variables haven't taken or empirically examined before. Current study will be pioneer in examining the relationship with moderating role of trust in Saudi Context.

Literature Review:

Introduction and background is presented in first phase of the study, the current part presents the relevant literature for investigation the role of social media and networking tools to be used for gaining competitive edge and increase effective communication for performance. Researcher attempted to present the literature to hypothesis development and research model is presented in current part of the study. Self-determination theory and TAM model is presented to underpin the notion of the study, which starts with social media and its usage.

Tendency to use Social media:

During last decade, significant changes have been observed in communication and collaboration way among society after inclusion of social media platform and extensive usage. These technologies have been accepted worldwide and their usage emerged in every sector which provides bulk information through innovation of technology (Wankel, 2009). Social media has emerged as an alternative platform for academic and business community for information sharing as compare to traditional media. Thus, social media has emerged as new communication and collaboration tool at each level including academic and higher level of education (Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Way of communication and collaboration has been significantly changed due to social media inclusion and technology introduced over time which is necessary for learning and interacting (Berry, 2001). Social media is considered as essential component for learning and communication in society and colleagues (Chen & Burns Gilchrist, 2013). Social media doesn't only facilitate young population or students but it provides facilities for researchers, educators and effective collaboration and communication. Currently, researchers have stated that academic community is using social media platforms for their business activities while using blogs, information sharing, updates and academic documents (Berger, 2017).

Social media plays critical role in facilitating their students and relationship with colleagues for information sharing to enhance overall learning and experience (Sobaih et al., 2016; Tess, 2013). Researchers have shown that that relation between faculty and students becomes stronger and effective due to effective information sharing and learning (Mazman & Usluel, 2010; Sánchez, Cortijo, & Javed, 2014). Researchers have suggested that social networking enable people to share information and knowledge for collaborating and communication in academic sector (Forkosh-Baruch & Hershkovitz, 2012). Extensive research has been conducted on higher education with link to social media and technological tools, further research is required to assess and investigate the promoting drivers for adoption of social media usage and skills as gap in Saudi context (P. J.-H. Hu & Hui, 2012). The current study also entails to address these issues for adoption of social media and influential factors including usefulness, ease of use, collaboration and communication with moderating role of trust in communication sector of Saudi Arabia.

Researchers have conducted research on importance of social media in academic achievement because it has positive outcomes. Studies have shown that students were more employable and successful with social links through social media as compare to more successful students in academically (Pan & Lee, 2011). In other words, academic excellence is important for career development and growth, and they don't get into unexpected or counterproductive performance (Hallfors et al., 2002).

Studies have been conducted on purchase intention of consumers due to social media campaign and awareness. Social media helps consumers to decide for purchase as it is easy to access and easy to gain awareness and knowledge about any product or features (Wells, Valacich, & Hess, 2011). Social media enables consumers to gain information, knowledge and awareness about products or services as compare to traditional media sources, social media develop favorable feelings for specific brand and enhances purchase intention towards products or services (Hutter, Hautz, Dennhardt, & Füller, 2013). Strong relationship has been depicted between booking intention and consumers' attitude in hospitality industry (Leung et al., 2015). The researchers have found that booking intention influenced by twitter accounts and enhanced marketing effectiveness. Social media has provided new waves for entrepreneurs to enhance their business activities. Social media enables people to increase their level of social involvement, business owners utilizes social media tools for their business. Tendency of usage social media at first phase which further leads for adoption of behavior. Tendency to use social media has been considered for business usage when owners or entrepreneurs have intention to adopt social media. Researchers have use TAM (technology acceptance model) for business owners to adopt technological advancements and social media tools as latest technological tools to perform business activities (Ndubisi, 2007).

Technological adoption in Saudi Context:

Saudi Arabia has invested massively on technological advancements since 1980s with innovation of computer systems and rapidly growing since. At the result of adoption of technological advancements business sector has grown rapidly in KSA (Kingdom of Saudi Arabia) and contributed for economic development (Al-Khaldi & Wallace, 1999). Studies have investigated technology based systems, adoption and implementation of technology in KSA, on the other hand, most of the Arab region didn't realize the benefits of internet and technology advancements (Aladwani, 2003). Willingness for adoption of technology has increased since the technology has taken attention of large number of consumers and usage of information system and technology has increased in private sector and found to be positively related with business strategy and success (Al Hosni, Ali, & Ashrafi, 2010). The studies and statistics have shown positive effect of technology adoption in private business sector of Saudi Arabia. Utilization of information technology and internet based social media by various organizations has generated benefits and encouraged competitors to adopt latest technologies for harvesting benefits and objectives (Abed, Dwivedi, & Williams, 2015). According to statistics 46% Saudi's professionals adopt internet and social media based applications for public relations (Al-Shohaib, Al-Kandari, & Abdulrahim, 2009; Alyaqoub & Rahman, 2018). There are various causes towards adoption of social networks and internet based communication methods which included quality of service, usefulness, usage, type of connection, age and type of accommodation (Dwivedi & Weerakkody, 2007; Mensah & Mi, 2018). Infrastructure of country has crucial role in adoption of internet based applications and systems as Arab countries still lack in development of required infrastructure suitable for internet based applications and systems (Al-Solbi & Mayhew, 2005; Baabdullah, Alalwan, & Al Qadi, 2018).

There are various risks has been faced by countries in adopting technological advancement and implantation of internet based applications and systems which includes piracy risks, lack of planning and opportunities and limited resources for information system development and research and development, the limited and poor interconnectivity of Arab IP system is stated as another hurdle in adopting latest technology based applications (Abed et al., 2015). Weak local capabilities, weak individual capabilities at business and governmental sectors with limited funding for information system are stated as obstacles for adoption and implantation of internet and technology based systems (Abed et al., 2015). In contrast, firms in Saudi Arabia at national level planned to improved awareness among participants to develop internet based infrastructure to increase learning courses (Abed et al., 2015; Al-Solbi & Mayhew, 2005). Researchers have reported that education levels are found to be significant factor in technology adoption but age and gender was not found significant (Al-Harby, Qahwaji, & Kamala, 2008).

Previously, data was collected from large companies of KSA, therefore, it might be possible that large and stronger companies have strong financial backgrounds and sufficient resources to implement and adopt internet based applications as compare to smaller companies. Therefore, it is recommended to investigate empirical findings of selected constructs on smaller companies. The behavior of individuals to use internet based applications depends on culture, therefore, internet and social media based applications usage must be investigated at individual level. The studies have shown that internet usage and social media applications in Saudi Arabia may not demonstrate at large scale due to unavailability of limited connectivity (Baabdullah et al., 2018).

The aim of the current study entails to investigate the factors influencing tendency towards usage of social media at Saudi communication sector from manager's perspective. There are some objectives related to communication sector for investigation of social media usage and tendency towards its usage to gain benefits.

- Providing and discussion on available literature related to usage of social media, its factors related to ease and usefulness of social media and tendency towards social media usage
- Identification of factors affect the tendency towards usage of social media in Saudi communication sector

Usefulness of social Media:

Individuals can perceives that their performance can be improved by using technology as it provides benefits and found to be useful. Social media found to be useful in creating ease in attaining target and achievement of goals by using technological tools including social media such as Face-book, Twitter and LinkedIn. Social media believed to make an individual free from any sort of mental pressure and issues at work place during business (Davis, 1989). Usefulness of social media or technological tools has considered as strong and effective predictors of adopting social media tools and technology for information sharing (Jiang, Hsu, Klein, & Lin, 2000). The usage of technology and social media tools in academia has been observed and found effective in literature which supports TAM for assessing its usefulness in academia (Lu, Yao, & Yu, 2005). Therefore, previous studies have depicted that usefulness of social

media found to be predictor of adopting tendency for social media in education, health, retail, hotel sector, tourism and various other services & production sector.

Researchers have depicted two opposing views on usefulness of social media on performance of education, production, communication and tourism industry. Most popular social media is Face-book used around the world (Junco, 2015). Studies have considered face-book usage among people for learning, communication and collaboration purposes. Role of Face-book have been depicted in literature to increase learning experience as technology tool (Junco, 2015). Studies have given mixed findings on the impact of social media usage and performance of academia including students or faculty. Impact of social media on individuals' well-being found to be mixed in empirical studies (Ainin et al., 2015). The results of empirical studies are divided into three different camps including positive relationship, negative relationship and no relationship among these constructs.

The mixed findings of relationship between constructs need to be verified in different context of Saudi Arabia to examine in different culture. The current study entails the usefulness of social media as independent variable and influential predictor for adoption of social media (Face-book and Twitter) in Saudi context to examine the empirical examination.

Researchers have found positive link between social media usage and learning in academic sector and progress (Yu et al., 2010). Social media enable participants to learn and collaborate with colleagues and peers without any physical binding. Through social media students can find support from their friends, colleagues, peers and teachers rapidly for learning experience. Information can be shared rapidly through social media and exchange ideas for their assignments and it contributes towards its development and progress. Course contents are updated and shared widely through social media which increases performance of academia related people may be students or faculty (Ainin et al., 2015). The studies conducted on Malaysia students also supported the notion of positive link between social media usage and performance.

Contrary, social media found to be detrimental for academically associated people and destroy their performance due to distraction of attention from learning and positive outcomes (Tariq, Mehboob, Khan, & Ullah, 2012). Individuals including students use social media for entertainment and social activities instead of learning or focusing on performance related outcomes (Akyildiz & Argan, 2012; Hamat et al., 2012). The most of time is being utilized in social interaction and social gathering or sharing rather than learning. Researchers have noted and shown in empirical findings that excessive usage of social media has negatively impacted performance of students and spent time on non-academic issues like chatting and social interactions with friends. Negative relationship between face-book usage and academic achievement has been investigated in US universities. The results show that academic performance of students has been reduced due to extensive usage of social network as they spent lot of time on social networking and social activities (Junco, 2015). Researchers have depicted and found negative relation between social media usage and performance of academic related people. Researchers have conducted empirical investigation on African academic related people to examine the effect of Face-book usage performance and found negative relationship (Lee, 2014). The study also depicted negative results in Germany between Face-book and performance of students at higher education (Skiera, Hinz, & Spann, 2015). The researchers have given reasons that users waste their time on social media sites, misuse of internet resources and limited resources. So participants found to be spending more time on Face-book and other social media tools instead of focusing their educational career.

Revolution in IT industry and rapid usage of computer systems and communication tools are used including the usage of social media applications in the field of business and services. Internet and investment of electronic applications has changed the way of business and changed the basis of competition. In the race of technological development and adoption of latest technologically equipped applications have become essential for economic system. Continuous innovation and increased global competition based on internet based business models in every industry specifically services industry and new forms of electronic businesses and management has emerged in current era (Aseri, 2018).

Based on above discussion following hypothesis is proposed:

H1: Usefulness of social media tools influence tendency of adopting social media in Saudi communication sector

Ease of Use and tendency to use Social Media:

Usage of specific technological tools by individuals shows their believe on social media tools which make their objective easy to achieve (Gruzd, Staves, & Wilk, 2012). Researchers have posited that ease of use construct found to be vital and important element in developing behavior towards adoption of technology (Venkatesh & Davis, 2000). Previous studies have found positive link between ease of use and attitude towards adoption of social media technological tools, but still empirical evidence still lack in explaining relationship between these constructs (Arshad & Akram, 2018). Ease of use of any technological tool or social media application enables individual to adopt technological advancements and develop their behavior positively towards innovative tools (Lu et al., 2005). Previous studies also posited that ease of use of tool develop positive attitude of individual towards continuous usage of application (Arshad & Akram, 2018; Davis, 1989).

Empirical studies have been conducted on examining influential electronic commerce adoption including Saudi Arabia. Literature has shown that electronic commerce has increased over number of years in developing countries. Various benefits have been drawn from electronic commerce in local and global market and in developing countries. Other developing countries including Saudi Arabia yet on the way to develop their system on modern technological basis, for online purchases and electronically conduction of business activities (Abed et al., 2015). Users of latest technology tools including social media applications are increasing rapidly due to its ease of use and acceptance widely. However, online users still face risk and negative behavior towards online activities and adoption of latest technological tools (AlGhamdi, Nguyen, & Jones, 2013).

Contrary, researchers have stated that Saudi consumers give worth to trust element, usefulness and ease of use for adoption of social media and latest technological applications (Al-Maghrabi & Dennis, 2012; Al-Mowalad & Putit, 2012). Researchers have stated that assessment of individuals towards technological tool or application with ease of mind and mental effort presents it ease of use. This supposed to be one of major belief in tendency towards technological usage including social media applications (Lu et al., 2005). Ease of use in utilization of technological application encourages its usage to gain benefits at individual level. Empirical support has been depicted in literature that ease of use found to be determinant for usage intentions; however, there are inconsistent findings with less significance or no significance role of ease of use (P. J. Hu, Chau, Sheng, & Tam, 1999). Earlier stage researchers have excluded role of ease of use in determining the intention of an individual in TAM model (Chau, 1996).

Contrary, various other researchers stressed on ease of use construct as an important in determining the exploration of technology usage. Researchers posited that emerging IT and information system plays important role and the ease of use enable individuals to adopt these tools. Therefore, researcher in present study took ease of use of social media play crucial role in adoption of these tools (Face-book and Twitter).

Based on above discussion following hypothesis is proposed:

H2: Ease of use of social media tools influence tendency of adopting social media in Saudi academic sector

Communication, collaboration and social media adoption:

Technological advanced tools enable individuals to share information and communication by offering high speed collaborative tools specially based on social media applications which include Face-book and Twitter. The benefits are gained through usage of social media applications in every community including education sector, tourism industry, SMEs industry and general public as well (Kaplan & Haenlein, 2010). Collaboration among various entities of firms or organizations is essential for successful and effective decision making. Firms strive to overcome communication and collaboration gap among academic or non-academic community (Bernard & Rubalcava, 2000). General community and academic related community utilizes social media applications for effective and rapid communication to share common interest and information among participants (Sánchez et al., 2014; Sobaih et al., 2016). The communication and collaboration among colleagues and classmates becomes effective through social media in developing communities for improving collaboration and communication (Sánchez et al., 2014). Prior researchers have posited that social media platforms found to be beneficial at college and university level students for educational purpose (Forkosh-Baruch & Hershkovitz, 2012).

Due to usefulness level and ease of use of social media application and easy access enable people to collaborate easily and rapidly with multiple options of collaboration while using latest technologies (Koh & Lim, 2012). Availability of social media helps users to send and receive multimedia messages and easily can be used for academic purposes among education community for information exchange and sharing of knowledge and creating awareness (Kaplan &

Haenlein, 2010). Researchers have proposed social media adoption as an effective way of communication in academic community. Researchers have found and stated that social media applications and tools enable participants in healthy communication and effective learning and information dissemination among people through these tools including Face-book and Twitter (Arshad & Akram, 2018; Gruzd et al., 2012; Wankel, 2009). In academic sector faculty use social media applications and tools for communicating students on time, discussion groups found to be another facility provided by these applications which enable multiple participants to share their experience, knowledge and information, same time various participants receives information according to their need. Official communication tools which largely include email, people are more active on social media applications as compare to traditional communication methods, which increase the efficiency and importance. The social media mode of communication helps participants to collaborate and engage community effectively and rapidly.

It has been argued on the basis of above discussion that ease of use and usefulness of social media applications positively influence the adoption of social media among general public and specific business or education community for collaboration and information sharing (Arshad & Akram, 2018). Social media offers effective communication tool so it can be used for increasing amount of information shared between users which specifically include teachers and students interaction. The social media based platforms overcome various barriers found to be in traditional communication channels such as physical location and time constraints (Yourstone, Kraye, & Albaum, 2008). Social media applications enable students to communicate and discuss their issues, these applications found to be useful for information sharing without any time or place restrictions. Benefits of social media tools have been presented by various researchers such as information and knowledge sharing among student to solve their academic problems, these applications found to be helping in long conversation sessions and information sharing around the world without any physical presence at office of meeting room. Use of social media becomes effective and popular due to its easy availability and free from any physical presence or time limits (Alshuaibi, 2015; Arshad & Akram, 2018; Chickering & Ehrmann, 1996).

On the basis of above discussion and justification, the researcher has formed following hypothesis for empirical examination in present study.

Based on above discussion following hypothesis is proposed:

H3: Effective collaboration at social media tools influence tendency of adopting social media in Saudi communication sector

H4: Effective communication at social media tools influence tendency of adopting social media in Saudi communication sector

Trust and social media (Moderating Role):

Trust plays an important role in success of business around the world. Trust involves in business activities in various areas, trust in knowledge sharing (Chow & Chan, 2008), trust on information system (Nicolaou & McKnight, 2006), trust among social network (Grabner-Kräuter, 2009), trust on electronic mean of business and commerce (McKnight, Choudhury, & Kacmar, 2002). Trust gains more importance in virtual space because of its high risks, deceitful and volatile behaviors of individuals (Gefen & Straub, 2003).

The researchers have assessed the trust aspect in implementation of innovative initiatives to determine the intention that consumer had to participate in online community, which further develops trust in online presence of firms for purchasing and selling. Online activities largely depend upon trust, lack of trust dismissed commitment of consumers, identification and affect behavior of an individual. Previously, researchers have investigated mediating roles of commitment and trust in knowledge sharing among colleagues and employees of firms. The trust factor effect the purchase intention of consumers. If commitment and trust among consumers or users found to be positive; then it further leads towards the loyalty and association with firms to carry on business activities (Hashim & Tan, 2015).

Contrary, trust failed to incorporate the required target for online business activities as the contents are electronic based (McKnight et al., 2002). Trust found to be not significant for developing trust on online products or brands for acquiring new customer or retaining existing customers (Toufaily, Ricard, & Perrien, 2013). Researchers have revealed the impact of social media on brand among users and investigated several constructs including brand

community marketers, value creation activities, trust, brand loyalty and customer equity, which are likely to be outcomes of trust (Laroche, Habibi, Richard, & Sankaranarayanan, 2012).

Researchers have defined trust in various aspects which reflects different paradigms of academic discipline (Grabner-Kräuter, 2009; Koehn, 2003; Lewicki & Bunker, 1995). The construct trust has been analyzed in online social networking sites and framework for analyzing role of trust has been developed by these researchers. Research scholars have defined trust in two different aspects; first, trust has been examined in social capital and networking aspect and viewed as an asset among relationship of firms and colleagues; trust helps to share the interaction among participants of social media applications (Murphy 2006) and (Ellison, Steinfield, & Lampe, 2007). The focus has drawn on relationship development but processes through which trust can be built has ignored. Secondly, researchers have embarked on other aspect of trust which includes types of trust and sources of trust which enable individuals to develop behavior among participants of social networking media (Face-book and Twitter). Trust has been defined as belief or expectation about others, trust shows that willingness to rely on others, it is associated with risk if trust is violated (Grabner-Kräuter, 2009; McKnight et al., 2002).

The current study entails trust as moderating effect between constructs, the trust proposed at moderator between relationship of usefulness, ease of use, collaboration and communication as influential factors towards tendency of social media usage. On the basis of above discussion following moderating hypothesis is formed.

H5: Trust moderate the relationship between Usefulness of social media tools and tendency of adopting social media in Saudi communication sector

H6: Trust moderate the relationship between Ease of use of social media tools and tendency of adopting social media in Saudi communication sector

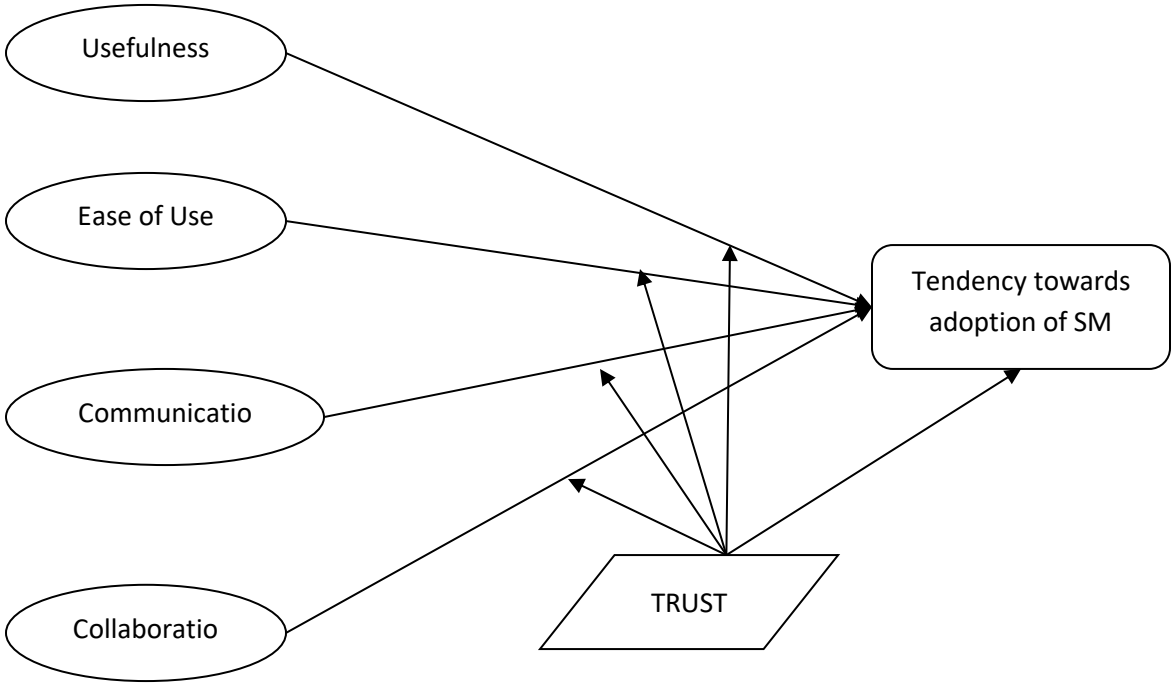
H7: Trust moderate the relationship between collaboration at social media tools and tendency of adopting social media in Saudi communication sector

H8: Trust moderate the relationship between Communication at social media tools and tendency of adopting social media in Saudi communication sector

H9: Trust on social media tools influence tendency towards adoption of social network applications in Saudi communication sector

Research Framework:

Following framework is proposed for investigating relationships among constructs of the present study.



Methodology:

Research Design & Sampling

Positivist research approach has been taken for current study on quantitative basis and gathered data through survey questionnaire. Target population of study comprised on employees working in Saudi communication sector at manager level.

Cross-sectional survey design is adopted to collect data from managers at communication sector of Saudi Arabia; who voluntarily agreed to participate. For survey 110 questionnaires were distributed in Jeddah in communication industry among participants by simple random convenience sample as it is cheap, fast and easy to get response from selected sample (Rod, Ashill, & Carruthers, 2008). The respondents were asked to be social media users and technology adopted behaviors. The usable questionnaires were 100 and used for data analysis. The characteristics for sample size included college diploma holders, bachelor's degree holder; educational level included Master degree and PhD degree holders as well. The experience of respondents is important in data collection and their response plays important role in determining the relationship between constructs. There were 35 employees at managerial level above the experience of 5 years, and 37 employees were at the experience of 11 to 15 years. The sample contains more than 15 years experiences and 28 managers, so that a total of 100 responses were collected form communication industry in Jeddah, Saudi Arabia for the current study.

Instrument development:

Measurement Scale:

The study used measurement scales of each construct as given in present section of study.

Tendency and adoption of social media usage:

The items to measure tendency towards social media usage were based on dimensions of technology acceptance. It was consist on six (06) questions and adopted from Ndubsis (2007) and used by Musa, R. B (2011). The items were

measured on 5 point Likert Scale; whereas 1 present 'never used' and 5 present 'often use'. The reliability cronbach alpha for measurement scale was found as 0.72.

Usefulness:

The construct used in the study as independent variable was measured on 5 point Likert scale; the 5 items construct was adopted from the study of Musa, R. B (2011). The Likert scale present 1 as strongly disagree and 5 as strongly agree. The reliability cronbach alpha for construct was observed as 0.81.

Ease of Use:

Ease of use was also measured with 5 items, and was measured on 5 point Likert scale from 1-5; whereas 1 was presented as strongly disagree and 5 presents strongly agree. The scale was adopted from Musa, R. B (2011). The cronbach alpha for construct was measured as 0.832.

Collaboration:

The scale of construct was adopted from the study of (So & Brush, 2008) and consist on 4 items; the items were measured on 5 point Likert scale; where 1 present 'strongly disagree' and 5 presents 'strongly agree'. The cronbach alpha was observed as 0.911.

Communication:

The 4 items measurement scale for this construct was adopted from the study of (Ozkan & Koseler, 2009) ; the scale was measured on 5 point likert scale; where 1 presents strongly disagree and 5 presents strongly agree. The cronbach alpha for this construct was observed as 0.813.

Trust:

The construct was measured on 4 item scales; the scale was adopt from the study of Poon (2003); the items were measured on 5 point Likert Scale, similarly previous scales. The cronbach alpha for construct was observed as 0.75.

Analysis and Result

They present study entailed SAMRT-PLS for analyzing data. Measurement model and structural equation modeling was used as it is well established in recent research that PLS found to be helping in examining the psychometric properties, relationship based on theories and validation of relations PLS is widely known and used due to its accuracy. For determining the relationships between constructs are also verified by the usage of PLS. Relationship strength is depicted after analyzing of data on smart-PLS. Current study examined the measurement model and in second step SEM was used for testing the hypothesis relationships.

For collection of data initially communication industry was chosen and questionnaires were sent to determine the performance of communication firms in Saudi Arabia. Saudi communication industry includes both public and private sector, as the study was related to the performance of employees and managers were reluctant to share the information. But it was insured by the researcher to use the data only for academic purpose. The reason is too related with less freedom in communication industry to share information. The questionnaire was containing variables including tendency towards usage of social media, usefulness of social media, collaboration, and ease of use, communication and trust.

Reliability

The reliability of scale is determined by the cornbach alpha (α) and can be examined by using SPSS. It is established fact that and suggested by various researchers that cornbach alpha α of construct must be higher than 0.70 and it will be considered as accepted in social sciences to determine the relationship empirically Nunally (1978). The current study observed the alpha value of each construct higher than cutoff point. The construct of the study 'tendency of usage social media' was observed as 0.72; usefulness was observed as 0.81; ease of use was observed as 0.83 and

collaboration was observed as 0.911; communication was 0.813. The reliability of current scale for each construct found to be higher than cut off point; so reliability is good for over all scale.

Analysis by using PLS-SEM: Measurement Model:

Composite Reliability

Reliability and validity of instrument was examined by content and convergent validity criteria. Table 1 shows Composite Reliability of construct. For hypothesis evaluation study used SEM approach. Level of significance is considered as 5%.

Table 1: Composite Reliability:

Sr#	Constructs	CR	Remarks
1	Tendency to use Social Media (TSM)	0.901	Good
2	Usefulness (UF)	0.813	Good
3	Ease of Use (EoU)	0.891	Good
4	Collaboration (Col)	0.873	Good
5	Communication (Comm)	0.901	Good
6	Trust (TR)	0.754	Good

The above table 1; shows CR test as it was conducted to measure convergent validity. Fornell and Larcker (1981) suggest value of CR must be higher than 0.70 for valid convergent validity.

Discriminate Validity

Table 2; depicts score of discriminate validity of measurement instrument, the square root of AVE for each construct must be larger than cross-correlations with other constructs. Below table 2; show the discriminant validity figures.

Table 2; Discriminant Validity

Sr#	Constructs	TSM	UF	EoU	Col	Comm	TR
1	TSM	**0.95**					
2	UF	0.57	**0.91**				
3	EoU	0.71	0.83	**0.98**			
4	Col	0.62	0.74	0.89	**0.89**		
5	Comm	0.83	0.69	0.77	0.79	**0.81**	
6	Trust (TR)	0.754	0.81	0.76	0.81	0.71	**0.85**

Structural Model:

The structural model estimation and hypothesis testing presented in the current part in table 3. The results of PLS-SEM analysis depict that influential factors (UF, EoU, Col, Comm and TR) significant effect on tendency towards social media usage (TSM); ($\beta = 0.361$, $p<0.001$; $\beta = 0.627$, $p<0.001$; $\beta = 0.120$, $p<0.05$, $\beta = 0.357$, $p<0.001$, $\beta = 0.341$, $p<0.001$) respectively. Independent variables (UF, EoU, Col, Comm, TR) significantly predict tendency to use social media ($\beta = 0.351$, $p< 0.05$, $\beta = 0.613$, $p<0.001$, $\beta = 0.212$, $p<0.05$, $\beta = 0.357$, $p<0.001$, $\beta = 0.341$, $p<0.001$) respectively.

Hypothesis Testing Results

Table 3: Hypothesis Results (Direct Effect)

Sr.	Hypothesis	Beta (β)	T-value	P-value
H1	UF-----→TSM	0.361	2.273	0.001
H2	EoU-----→TSM	0.351	2.022	0.030
H3	Col-----→TSM	0.627	2.350	0.020
H4	Comm------→TSM	0.613	3.432	0.040
H9	TR------→TSM	0.120	3.321	0.035

Description of hypothesis (Direct Effects):

H1: Direct effect of UF (Usefulness) to TSM (Tendency to use social media) found to be positive and statistically significant; the table 3 depicts (β = 0.361 with t-value as 2.273) which shows positive and significant result. Therefore, H1 Accepted.

H2: Direct effect of EoU (Ease of use) to TSM (Tendency to use social media) found to be positive and statistically significant; the table 3 depicts (β = 0.351 with t-value as 2.022) which shows positive and significant result. Therefore, H2 Accepted.

H3: Direct effect of Collaboration (Col) to TSM (Tendency to use social media) found to be positive and statistically significant; the table 3 depicts (β = 0.627 with t-value as 2.350) which shows positive and significant result. Therefore, H3 Accepted.

H4: Direct effect of Communication (Comm) to TSM (Tendency to use social media) found to be positive and statistically significant; the table 3 depicts (β = 0.613 with t-value as 2.432) which shows positive and significant result. Therefore, H4 Accepted.

H5: Direct effect of TR (Trust) to TSM (Tendency to use social media) found to be positive and statistically significant; the table 3 depicts (β = 0.120 with t-value as 4.321) which shows positive and significant result. Therefore, H5 Accepted.

Moderating Test: (In-Direct Effects)

Moderating role of Trust (TR) for the present study is examined in this phase, researcher used PLS with steps that relies on regression analysis. The results depict the moderation role of Trust between predictors (UF, EoU, Col, Comm) and TSM; statistics shows direct significant effect of UF on TSM (β = 0.652, p=0.000). Further, results show predictors (UF, EoU, Col, Comm) have significant direct effect on TSM (Tendency to use social media) (β = 0.351, $p< 0.05$, β = 0.613, $p<0.001$, β = 0.212, $p<0.05$) respectively. Table 4; shows the results of moderating effect of constructs.

Table 4: In-Direct Result (Hypothesis-test moderation)

Sr.	Hypothesis	Beta (β)	T-value	P-value

H5	UF*TR→TSM	0.389	4.273	0.001
H6	EoU*TR→TSM	0.659	3.012	0.030
H7	Col*TR→TSM	0.827	5.340	0.000
H8	Comm*TR→TSM	0.017	1.511	0.50

Description: (Moderating role of Trust)

H5: Moderation effect of trust is investigated; hypothesis 5; results shows t-value 4.273 found to be higher than cutoff point 1.96; which indicate that trust moderate statistically significant between Usefulness and Tendency to use social media. Therefore, H5 is accepted. The moderating effect of trust on the relationship between UF and TSM found β value as ($\beta = 0.389$, $t = 4.273$, $p<0.05$), hence H5 accepted on statistical grounds.

H6: Moderation effect of Trust is examined between ease of use and TSM; hypothesis 6; results shows t-value 3.012 found to be higher than cutoff point 1.96; which indicate that Trust moderate statistically significant between EoU and TSM. Therefore, H6 is accepted. The moderating effect of trust on the relationship between EoU and TSM found β value as ($\beta = 0.659$, $t = 3.012$, $p<0.05$), hence H6 accepted on statistical grounds.

H7: Moderation effect of trust is also examined between collaboration and TSM; hypothesis 7; results shows t-value 5.340 found to be higher than cutoff point 1.96; which indicate that trust moderate statistically significant between Collaboration and TSM. Therefore, H7 is accepted. The moderating effect of trust on the relationship between Collaboration and TSM found β value as ($\beta = 0.827$, $t = 5.340$, $p<0.05$), hence H7 accepted on statistical grounds.

H8: Moderation effect of trust is shown; hypothesis 8; results shows t-value 1.511 found to be lower than cutoff point 1.96; which indicate that trust doesn't moderate statistically significant. Thus, the result shows no credibility and rejected. Therefore, H8 is rejected. The moderating effect of trust on the relationship of communication and TSM found β value as ($\beta = 0.017$, $t = 1.511$, $p<0.05$), hence H8 rejected.

Conclusion:

Social media usage at service sector and production has increased to conducted business process on internet based applications. The research scholars have examined the relationship between social media usage and performance related outcomes in Western regions. The usage of social media includes face-book, Twitter, LinkedIn and internet based computer systems but the usage of technology in Arab world was neglected so far, however there are few studies have been conducted in Saudi Arabia, USA and Jordan to examine the effect of social media. The current study attempts to investigate the relationship of influential factors including ease of use, usefulness and communication and collaboration to determine the tendency towards usage of social media application in Saudi Arabian communication sector. Further, trust was used in the present study to determine the moderating role. Trust plays the moderating role between the relationship of independent and dependent variables. The current study contributes in the body of knowledge in explaining the relationship between influential factors and tendency towards social media usage in services sector, the relationship between ease of use, usefulness, communication and collaboration is explained in context of communication sector of KSA.

Moderating role of trust between usefulness, ease of use, collaboration, communication and tendency towards social media, previous inconclusive findings between usefulness, and ease of use with usage of social media also examined.

Results showed that trust moderated relationship between usefulness, ease of use collaboration and tendency of social media application usage and found that trust moderate the relationship, but trust doesn't moderate between communication and tendency towards social media application usage in academic sector of Saudi Arabia.

References:

Abed, S. S., Dwivedi, Y. K., & Williams, M. D. (2015). SMEs' adoption of e-commerce using social media in a Saudi Arabian context: a systematic literature review. *International Journal of Business Information Systems, 19*(2), 159-179.

Ainin, S., Naqshbandi, M. M., Moghavvemi, S., & Jaafar, N. I. (2015). Facebook usage, socialization and academic performance. *Computers & Education, 83*, 64-73.

Akyildiz, M., & Argan, M. (2012). Using online social networking: Students' purposes of Facebook usage at the University of Turkey. *Journal of Technology Research, 3*, 1.

Al-Harby, F., Qahwaji, R., & Kamala, M. (2008). *The feasibility of biometrics authentication in e-commerce: User acceptance.* Paper presented at the IADIS International Conference WWW/Internet.

Al-Khaldi, M. A., & Wallace, R. O. (1999). The influence of attitudes on personal computer utilization among knowledge workers: the case of Saudi Arabia. *Information & Management, 36*(4), 185-204.

Al-Maghrabi, T., & Dennis, C. (2012). The driving factors of continuance online shopping: gender differences in behaviour among students–the case of Saudi Arabia. *International Journal of Business Information Systems, 9*(4), 360-384.

Al-Mowalad, A., & Putit, L. (2012). *Factors that influence Saudi consumers behavior to make online purchase.* Paper presented at the International conference on management, behavioral sciences and economics issues.

Al-rahmi, W. M., Othman, M. S., Yusof, L. M., & Musa, M. A. (2015). Using social media as a tool for improving academic performance through collaborative learning in Malaysian higher education. *Review of European Studies, 7*(3), 265.

Al-Shohaib, K., Al-Kandari, A. A., & Abdulrahim, M. A. (2009). Internet adoption by Saudi public relations professionals. *Journal of Communication Management, 13*(1), 21-36.

Al-Solbi, A., & Mayhew, P. J. (2005). Measuring e-readiness assessment in saudi organisations preliminary results from a survey study. *From e-government to m-government*, 467-475.

Al Hosni, N., Ali, S., & Ashrafi, R. (2010). *The key success factors to mobile commerce for Arab countries in Middle East.* Paper presented at the Proceedings of the 12th International Conference on Information Integration and Web-based Applications & Services.

Aladwani, A. M. (2003). Key Internet characteristics and e-commerce issues in Arab countries. *Information Technology & People, 16*(1), 9-20.

Alansari, M. T., Velikova, N., & Jai, T.-M. (2018). Marketing effectiveness of hotel Twitter accounts: the case of Saudi Arabia. *Journal of Hospitality and Tourism Technology, 9*(1), 65-79.

AlGhamdi, R., Nguyen, A., & Jones, V. (2013). A study of influential factors in the adoption and diffusion of B2C e-commerce. *arXiv preprint arXiv:1302.0272*.

Alshuaibi, M. S. i. I. (2015). *Use of social media, student engagement, and academic performance of business students at Universiti Utara Malaysia.* Universiti Utara Malaysia.

Aluri, A., Slevitch, L., & Larzelere, R. (2015). The effectiveness of embedded social media on hotel websites and the importance of social interactions and return on engagement. *International Journal of Contemporary Hospitality Management, 27*(4), 670-689.

Alwagait, E., Shahzad, B., & Alim, S. (2015). Impact of social media usage on students academic performance in Saudi Arabia. *Computers in Human Behavior, 51*, 1092-1097.

Alyaqoub, R. A., & Rahman, N. A. A. (2018). *The Utilization of New Media in Online Public Relations Activities in Public Universities.* Paper presented at the SMMTC Postgraduate Symposium 2018.

Arshad, M., & Akram, M. S. (2018). Social media adoption by the academic community: Theoretical insights and empirical evidence from developing countries. *International Review of Research in Open and Distributed Learning, 19*(3).

Aseri, A. M. (2018). Factors Influencing the Use of E-Management from Manager's Perspective: An Applied Study in Saudi Communication Sector. *International Review of Management and Marketing, 8*(3), 32.

Baabdullah, A. M., Alalwan, A. A., & Al Qadi, N. S. (2018). Evaluating the Current Situation of Mobile Services (M-Services) in the Kingdom of Saudi Arabia *Emerging Markets from a Multidisciplinary Perspective* (pp. 149-160): Springer.

Barbour, M. K., & Reeves, T. C. (2009). The reality of virtual schools: A review of the literature. *Computers & Education, 52*(2), 402-416.
Berger, P. (2017). Beyond plain acceptance or sheer resistance: A typology of university instructors' attitudes to students' media use in class. *Teaching and Teacher Education, 67*, 410-417.
Bernard, R. M., & Rubalcava, B. R. d. (2000). Collaborative online distance learning: Issues for future practice and research. *Distance education, 21*(2), 260-277.
Berry, B. D. (2001). Digital Natives, Digital Immigrants, Part II: Do They Really Think Differently? By Marc Prensky From On the Horizon (NCB University Press, Vol. 6, December 2001) l. 9 No.
Browning, L., Gerlich, R. N., & Westermann, L. (2011). The New HD Classroom: A" Hyper Diverse" Approach to Engaging with Students. *Journal of Instructional Pedagogies, 5*.
Chau, P. Y. (1996). An empirical assessment of a modified technology acceptance model. *Journal of management information systems, 13*(2), 185-204.
Chen, H.-l., & Burns Gilchrist, S. (2013). Online access to higher education on YouTubeEDU. *New Library World, 114*(3/4), 99-109.
Chickering, A. W., & Ehrmann, S. C. (1996). Implementing the seven principles: Technology as lever. *AAHE bulletin, 49*, 3-6.
Chow, W. S., & Chan, L. S. (2008). Social network, social trust and shared goals in organizational knowledge sharing. *Information & management, 45*(7), 458-465.
Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
DeAndrea, D. C., Ellison, N. B., LaRose, R., Steinfield, C., & Fiore, A. (2012). Serious social media: On the use of social media for improving students' adjustment to college. *The Internet and higher education, 15*(1), 15-23.
Duggan, M., Ellison, N., Lampe, C., Lenhart, A., & Madden, M. (2015). Social media update 2014. Retrieved April 26, 2016.
Dwivedi, Y. K., & Weerakkody, V. (2007). Examining the factors affecting the adoption of broadband in the Kingdom of Saudi Arabia. *Electronic Government, an International Journal, 4*(1), 43-58.
Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*(4), 1143-1168.
Forbes, D. (2017). Professional online presence and learning networks: Educating for ethical use of social media. *International Review of Research in Open and Distributed Learning, 18*(7).
Forkosh-Baruch, A., & Hershkovitz, A. (2012). A case study of Israeli higher-education institutes sharing scholarly information with the community via social networks. *The Internet and Higher Education, 15*(1), 58-68.
Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.
Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments *Handbook of research on student engagement* (pp. 763-782): Springer.
Gefen, D., & Straub, D. (2003). Managing user trust in B2C e-services. *e-Service, 2*(2), 7-24.
Grabner-Kräuter, S. (2009). Web 2.0 social networks: the role of trust. *Journal of business ethics, 90*(4), 505-522.
Gruzd, A., Staves, K., & Wilk, A. (2012). Connected scholars: Examining the role of social media in research practices of faculty using the UTAUT model. *Computers in Human Behavior, 28*(6), 2340-2350.
Hallfors, D., Vevea, J. L., Iritani, B., Cho, H., Khatapoush, S., & Saxe, L. (2002). Truancy, grade point average, and sexual activity: A meta-analysis of risk indicators for youth substance use. *Journal of School Health, 72*(5), 205-211.
Hamat, A., Embi, M. A., & Hassan, H. A. (2012). The use of social networking sites among Malaysian university students. *International Education Studies, 5*(3), 56.
Hargittai, E., & Hsieh, Y.-l. P. (2010). Predictors and consequences of differentiated practices on social network sites. *Information, Communication & Society, 13*(4), 515-536.
Harris, C. W. (2012). The uses of facebook© technologies in hospitality curriculum on an experiential learning platform for a new generation of students. *Asia Pacific Journal of Marketing and Logistics, 24*(5), 805-825.
Hashim, K. F., & Tan, F. B. (2015). The mediating role of trust and commitment on members' continuous knowledge sharing intention: A commitment-trust theory perspective. *International Journal of Information Management, 35*(2), 145-151.

Hopp, T., & Gangadharbatla, H. (2016). Examination of the factors that influence the technological adoption intentions of tomorrow's new media producers: A longitudinal exploration. *Computers in Human behavior, 55*, 1117-1124.

Hrastinski, S., & Aghaee, N. M. (2012). How are campus students using social media to support their studies? An explorative interview study. *Education and Information Technologies, 17*(4), 451-464.

Hu, P. J.-H., & Hui, W. (2012). Examining the role of learning engagement in technology-mediated learning and its effects on learning effectiveness and satisfaction. *Decision support systems, 53*(4), 782-792.

Hu, P. J., Chau, P. Y., Sheng, O. R. L., & Tam, K. Y. (1999). Examining the technology acceptance model using physician acceptance of telemedicine technology. *Journal of management information systems, 16*(2), 91-112.

Hutter, K., Hautz, J., Dennhardt, S., & Füller, J. (2013). The impact of user interactions in social media on brand awareness and purchase intention: the case of MINI on Facebook. *Journal of Product & Brand Management, 22*(5/6), 342-351.

Jiang, J. J., Hsu, M. K., Klein, G., & Lin, B. (2000). E-commerce user behavior model: an empirical study. *Human Systems Management, 19*(4), 265-276.

Junco, R. (2015). Student class standing, Facebook use, and academic performance. *Journal of Applied Developmental Psychology, 36*, 18-29.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons, 53*(1), 59-68.

Karikari, S., Osei-Frimpong, K., & Owusu-Frimpong, N. (2017). Evaluating individual level antecedents and consequences of social media use in Ghana. *Technological Forecasting and Social Change, 123*, 68-79.

Koehn, D. (2003). The nature of and conditions for online trust. *Journal of Business Ethics, 43*(1-2), 3-19.

Koh, E., & Lim, J. (2012). Using online collaboration applications for group assignments: The interplay between design and human characteristics. *Computers & Education, 59*(2), 481-496.

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The journal of higher education, 79*(5), 540-563.

Kwahk, K.-Y., & Park, D.-H. (2016). The effects of network sharing on knowledge-sharing activities and job performance in enterprise social media environments. *Computers in Human Behavior, 55*, 826-839.

Laroche, M., Habibi, M. R., Richard, M.-O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior, 28*(5), 1755-1767.

Lau, W. W. (2017). Effects of social media usage and social media multitasking on the academic performance of university students. *Computers in human behavior, 68*, 286-291.

Lee, E. B. (2014). Facebook use and texting among African American and Hispanic teenagers: An implication for academic performance. *Journal of Black Studies, 45*(2), 83-101.

Leung, X. Y., Bai, B., & Stahura, K. A. (2015). The marketing effectiveness of social media in the hotel industry: A comparison of Facebook and Twitter. *Journal of Hospitality & Tourism Research, 39*(2), 147-169.

Lewicki, R. J., & Bunker, B. B. (1995). Trust in relationships. *Administrative Science Quarterly, 5*(1), 583-601.

Lu, J., Yao, J. E., & Yu, C.-S. (2005). Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. *The Journal of Strategic Information Systems, 14*(3), 245-268.

Maresh-Fuehrer, M. M., & Smith, R. (2016). Social media mapping innovations for crisis prevention, response, and evaluation. *Computers in Human Behavior, 54*, 620-629.

Mazman, S. G., & Usluel, Y. K. (2010). Modeling educational usage of Facebook. *Computers & Education, 55*(2), 444-453.

McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information systems research, 13*(3), 334-359.

Mensah, I. K., & Mi, J. (2018). An Empirical Investigation of the Impact of Demographic Factors on E-Government Services Adoption. *International Journal of E-Services and Mobile Applications (IJESMA), 10*(2), 17-35.

Mickey, B. (2011). Social media and marketing a major topic of discussion. *Funworld, 27*(1), 34-35.

Moore, A. H., Fowler, S. B., Jesiek, B., Moore, J. F., & Watson, E. C. (2008). Learners 2.0?: IT and 21st-Century Learners in Higher Education. *ECAR Research Bulletin, 2008*(7).

Ndubisi, N. O. (2007). EVALUATING THE DIRECT AND INDIRECT IMPACT OF TRAITS AND PERCEPTIONS ON TECHNOLOGY ADOPTION BY WOMEN ENTREPRENEURS IN MALAYSIA. *Academy of Entrepreneurship Journal, 13*(2).

Nicolaou, A. I., & McKnight, D. H. (2006). Perceived information quality in data exchanges: Effects on risk, trust, and intention to use. *Information systems research, 17*(4), 332-351.

Ozer, I., Karpinski, A. C., & Kirschner, P. A. (2014). A cross-cultural qualitative examination of social-networking sites and academic performance. *Procedia-Social and Behavioral Sciences*, *112*, 873-881.
Ozkan, S., & Koseler, R. (2009). Multi-dimensional students' evaluation of e-learning systems in the higher education context: An empirical investigation. *Computers & Education*, *53*(4), 1285-1296.
Pan, Y.-J., & Lee, L.-S. (2011). Academic performance and perceived employability of graduate students in business and management–An analysis of nationwide graduate destination survey. *Procedia-Social and Behavioral Sciences*, *25*, 91-103.
Rhoades, E., Friedel, C., & Irani, T. (2008). Classroom 2.0: Student's feelings on new technology in the classroom. *NACTA Journal*, 32-38.
Roblyer, M. D., McDaniel, M., Webb, M., Herman, J., & Witty, J. V. (2010). Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *The Internet and higher education*, *13*(3), 134-140.
Rod, M., Ashill, N. J., & Carruthers, J. (2008). The relationship between job demand stressors, service recovery performance and job outcomes in a state-owned enterprise. *Journal of Retailing and Consumer Services*, *15*(1), 22-31.
Rusnifaezah, M. (2011). *Social Media Marketing: A Tendency of Entrepreneur's Personality Toward Technology Adoption.* Universiti Utara Malaysia.
Sánchez, R. A., Cortijo, V., & Javed, U. (2014). Students' perceptions of Facebook for academic purposes. *Computers & Education*, *70*, 138-149.
Selwyn, N. (2012). Social media in higher education. *The Europa world of learning*, *1*, 1-10.
Skiera, B., Hinz, O., & Spann, M. (2015). Social media and academic performance: Does the intensity of Facebook activity relate to good grades? *Schmalenbach Business Review*, *67*(1), 54-72.
So, H.-J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & education*, *51*(1), 318-336.
Sobaih, A. E. E., Moustafa, M. A., Ghandforoush, P., & Khan, M. (2016). To use or not to use? Social media in higher education in developing countries. *Computers in Human Behavior*, *58*, 296-305.
Stageman, A. (2011). Consulting social media in the college transition process: Experiential accounts of the Class of 2014.
Statista, Q. (2016). Number of monthly active Facebook users worldwide as of 4th quarter 2015.
Tariq, W., Mehboob, M., Khan, M. A., & Ullah, F. (2012). The impact of social media and social networks on education and students of Pakistan. *International Journal of Computer Science Issues (IJCSI)*, *9*(4), 407.
Tess, P. A. (2013). The role of social media in higher education classes (real and virtual)–A literature review. *Computers in Human Behavior*, *29*(5), A60-A68.
Toufaily, E., Ricard, L., & Perrien, J. (2013). Customer loyalty to a commercial website: Descriptive meta-analysis of the empirical literature and proposal of an integrative model. *Journal of Business Research*, *66*(9), 1436-1447.
Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, *46*(2), 186-204.
Wankel, C. (2009). Management education using social media. *Organization Management Journal*, *6*(4), 251-262.
Wells, J. D., Valacich, J. S., & Hess, T. J. (2011). What signal are you sending? How website quality influences perceptions of product quality and purchase intentions. *MIS quarterly*, 373-396.
Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism management*, *31*(2), 179-188.
Yourstone, S. A., Kraye, H. S., & Albaum, G. (2008). Classroom questioning with immediate electronic response: Do clickers improve learning? *Decision Sciences Journal of Innovative Education*, *6*(1), 75-88.
Yu, A. Y., Tian, S. W., Vogel, D., & Kwok, R. C.-W. (2010). Can learning be virtually boosted? An investigation of online social networking impacts. *Computers & Education*, *55*(4), 1494-1503.

VIENNA, AUSTRIA

BUSINESS & ECONOMICS

BY THE WEI

ISSN 2167-3179 (ONLINE) USA