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Editorial

Information Management and Business Review (IMBR) provides a unique platform to scholars around the world to share their knowledge and publish research work in the fields of information management, business, management and related disciplines. The work submitted for publication consideration in IMBR should address empirical and theoretical developments in the subjects related to the scope of the journal in particular and allied theories and practices in general. Scope of IMBR includes: subjects of finance, accounting, auditing, cost & management accounting, financial psychology, financial literacy, marketing, information management, human resource management, knowledge management, innovation, change management, enterprise management, e-commerce and information system. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to IMBR. It is IMBR policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of IMBR comprises of papers of scholars from Indonesia, Pakistan, USA and Oman. Students entrepreneurship intention, determinants of profitability: a comparative study of textile and cement sector, influencing factors on taxpayer compliance, modeling cross category purchase decision making with consumers' mental budgeting control habit, affecting factors on accountability of village fund allocation management and cash settled commodity option contracts as an alternative to minimum support price are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

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PAPERS

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Students Entrepreneurship Intention in Metropolitan and Indonesia Free Trade Zone: Is it Different?

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Abstract: This study aims to determine the Entrepreneurship Intention of students in Universitas Negeri Surabaya (Unesa) which is a metropolitan area and Riau Islands University (Unrika) in Indonesia Free Trade Zone. To distinguish Entrepreneurship Intention from students in this study using Theory of Planned Behavior (TPB). This type of research is quantitative exploratory research data analysis using Structural Equation Modeling (SEM) with the WarpPLS approach. Respondents in this study are Unesa and Unrika students, 6th-semester Economics or had taken entrepreneurship courses with a total of 142 students. There are similar intentions of Unrika entrepreneurship with Unesa. In Unrika, they were in the free trade zone area so they were more consumptive towards electronics because of their low price and reluctant to be entrepreneurs. In the free trade zone, if we want to sell an item outside the island, it will be charged by the government, and the price will be same like the price from the outside of free trade zone. Moreover, most of their parents are workers or civil servants and not entrepreneurs. The cause of Unesa students is reluctant to become entrepreneurs because most of them want to become civil servants based on the influence of the family environment which on average comes from the village and works as a civil servant. For Unrika, most of them are college workers, so their mindset before and when they are studying is as workers.

Keywords: *Difference, Entrepreneurship Intention, Unesa, Unrika.*

1. Introduction

Entrepreneurship learning can support government programs on people-based economic programs. The Chancellor of Syiah Kuala (Unsyiah) Darussalam University in Banda Aceh, Prof. Samsul Rizal in Putra (2015) said, in general, the percentage of entrepreneurs in Indonesia was only 1.65% of the total population. These percentages are far behind compared to Singapore, Malaysia, or Thailand, each of which has an entrepreneur level of 7%, 5%, and 3%. Data from the Ministry of Cooperatives and Small and Medium Enterprises shows, currently the number of entrepreneurs in Indonesia has only reached 1.65% or around 3.7 million. Whereas to become a developed country, the number of entrepreneurs must be more, at least 2% of the total population. "Indonesia's population is 252 million people, it requires 4.8 million entrepreneurs," said Deputy of Human Resources Development (HR) Ministry of Cooperatives and SMEs Prakoso BS in Julianto (2017). Entrepreneurship learning is a compulsory subject as part of a study program in Indonesia. However, most students who graduate from college do not want to become entrepreneurs. In contrast to the phenomenon of entrepreneurial learning that occurs in Riau Islands University (Unrika). The majority of Unrika students are workers who want to go to college. This college operates in the afternoon until the evening. While the morning is used to work first. Mindset students in Unesa want when they graduate to become Civil Servants (PNS) or become employees.

Entrepreneurship learning in Indonesia is also not in line with expectations as happened at Surabaya State University (Unesa) and Unrika. Most of the students at this college are from the same district. This is because they think if they become entrepreneurs, the income they earn is not fixed. All efforts have been given to students in Indonesia such as the Entrepreneurial Student Program (in Indonesia called PMW) and Entrepreneurship Student Creativity Program (in Indonesia called PKM-K). When the program has finished, the entrepreneurial activities carried out also stop. Only a few continue their entrepreneurship. Moreover, when they have graduated from college, they will again become workers in an agency and are reluctant to become entrepreneurs. This study aims to determine the Entrepreneurship Intention of students in Universitas Negeri Surabaya (Unesa) which is a metropolitan area and Riau Islands University (Unrika) in Indonesia Free Trade Zone. This research is important to do immediately considering that more and more scholars in Indonesia are unemployed. Many also after graduating from S1 they actually become online motorcycle taxi drivers even though Indonesian baccalaureate has the potential to become a successful entrepreneur. With this research, it can be seen the cause of the low intention of entrepreneurship in Unesa and Unrika students. Suggestions for improvement of the two universities are also the focus of this study.

2. Literature Review

Theory of Planned Behavior (TPB) was introduced by Ajzen (1991). In TPB some more determines a person's intentions, namely Attitudes, Subjective Norms, and Perceptions of Behavior Control. Several previous studies on the theory of planned behavior and entrepreneurial intentions have been carried out. Ridha, Burhanuddin, & Wahyu (2017) research young entrepreneurs in Indonesia in agriculture. As with Justo De Jorge-Moreno, Laborda, & Triguero (2012) also examined the intention of entrepreneurship, but his research sought to influence the intention of entrepreneurial students after being given economic and business education programs. Whereas Solesvik, Westhead, & Matlay (2014) not only explored student entrepreneurial intentions in Ukraine but explored cultural factors there and their relationship with the intention of student entrepreneurship. Research on entrepreneurial intentions has been carried out in various countries. In Spain, Justo De Jorge-Moreno et al. (2012) found that students' entrepreneurial intentions declined when they had long taken lectures and when they had more knowledge about business reality. However, students' entrepreneurial intentions increase when they choose jobs in the field of public administration. Politics, Ketikidis, Diamantidis, & Lazuras (2016) successfully predict social and commercial entrepreneurial intentions. His findings say that tensions in mission focus seem to be present in the early shaped intentions of potential social entrepreneurs. Whereas in China, the results of research that say cultural and social dimensions only explain a small part of entrepreneurial intentions (Pruett, Shinnar, Toney, Llopis, & Fox, 2009).

Arshad, Farooq, Sultana, & Farooq (2016) conducted research on students in the largest tertiary institutions throughout South Asia. Culture in China is once again discussed because the changes can make perceptions and the entrepreneurial intentions vary (Sharma, 2018). The results of his study say that perceived entrepreneurial self-efficacy of male students has a greater effect on entrepreneurship, but the perceived social norms of female students have a greater influence on entrepreneurship. Differences in male and female academic entrepreneurial intentions are also different in perceptions of support from business and financial networks and in starting businesses (Fernández-Pérez, Esther Alonso-Galicia, del Mar Fuentes-Fuentes, & Rodriguez-Ariza, 2014). Entrepreneurship has a positive impact on entrepreneurial intentions. On the other hand, the best antisense for students' entrepreneurial intentions is an attitude (Joensuu-Salo, Varamäki, & Viljamaa, 2015). Whereas Buli & Yesuf (2015) say that the most predictable variable from entrepreneurial intention is the personal attitude toward behavior and perceived behavioral control. Unlike the previous research, in Karimi's research, J. A. Biemans, Lans, Chizari, & Mulder (2014) found gender differences did not affect perceived behavior control and student entrepreneurial intentions at 7 universities in Iran. In UAE, the work ethics of wasted time, leisure, and self-reliance positively predict entrepreneurial intention while the centrality of work is unrelated to entrepreneurial intentions (Tipu & Ryan, 2016). In Bosnia, the intention of student entrepreneurship can be increased by increasing overall business surrounding and entrepreneurial education (Palalić, Ramadani, Đilović, Dizdarević, & Ratten, 2017).

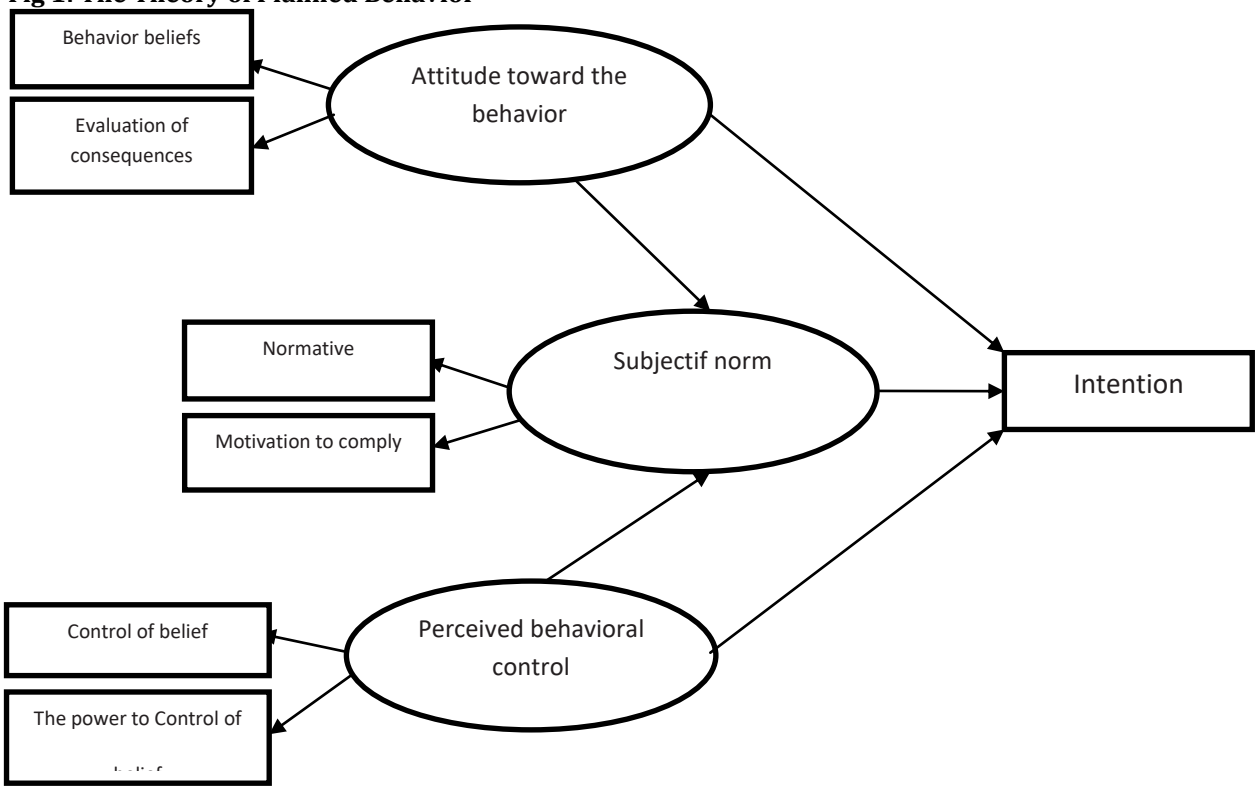
Unlike in Greece, entrepreneurial intentions deteriorate for 4 years while they study and faculty members have a low entrepreneurial education mentality (Piperopoulos, 2012). Entrepreneurship Education is an important element that influences entrepreneurial intentions of young women in India (Srivastava & Misra, 2017). In India & America studies have been found that says that both hostile and benevolent sexism are positively related to entrepreneurial intentions of both men and women (Stedham & Wieland, 2017). Whereas in Africa, the regulatory environment has a positive and significant impact on feasibility and desirability, furthermore both feasibility and desirability affect positive intentions (Urban & Kujinga, 2017). In Norway, Anne Støren (2014) examines graduates in Norway who have taken various education in the field of entrepreneurship. Although there are fewer graduates in the entrepreneurship field, they are interested in entrepreneurship. While at Midwestern University, creativity has a direct and positive effect on students' entrepreneurial intentions (Smith, Sardeshmukh, & Combs, 2016). Baluku, Löser, Otto, & Schummer (2018) examine entrepreneurial intentions in other variables. According to him the personal initiative and career orientation are very important as a mediation of entrepreneurial intentions. Bellò, Mattana, & Loi (2018) argue that providing new education programs can foster entrepreneurial intentions. Ajzen's model of planned behavior has also been studied in 12 countries by Engle et al. (2010). He succeeded in predicting entrepreneurial intentions in each of the research countries.

Although the results are the same as predicted by Ajzen, the elements of the contribution model are significantly different in each country, but social norms are a significant predictor of entrepreneurial intentions in each country. Ajzen's model of planned behavior may have been refined by means of measuring identification - in place of attitudes toward entrepreneurship (Jarvis, 2016). Oftedal, Iakovleva, & Foss (2018) also examined entrepreneurial intentions in 5 countries. The findings show that the 2 dimensions of the university context influence the intention of student entrepreneurship both relatively and normatively. Slightly different, self-employment intentions at the Florida Gulf Coast University can be predicted by perceived feasibility and net desirability (Segal, Borgia, & Schoenfeld, 2005). Comparison of entrepreneurial intentions in 2 countries has also been carried out by González-Serrano, Valantine, Hervás, Pérez-Campos, & Moreno (2018). His results say that there are significant differences between Spanish and Lithuanian sports science students. Thus students are expected to have a better entrepreneurial mentality.

Lithuanian students have a perceived behavior control and professional attraction which has a higher influence on entrepreneurial intentions than Spanish students. Then in 22 Continental countries, it was found "perceived capacity"; "Entrepreneurial intention" which will, in fact, influence the "rate of potential entrepreneurship" (Teixeira, Casteleiro, Rodrigues, & Guerra, 2018). From several phenomena and previous research on entrepreneurial intentions, the entrepreneurial character of students can be measured through the theory of planned behavior and entrepreneurial intentions. Both of these factors have different views on each student. Differences in student characteristics also depend on the environment. The fundamental difference with some previous studies is that this study compares the intention of student entrepreneurship in the theory of planned behavior in Indonesia, namely Unrika, which is located in the Free Trade Zone and Unesa in the Metropolitan city. By doing this research in Unrika and Unesa, we can find out what factors make the character of students lack entrepreneurial intentions.

Research Hypothesis: Some previous studies have formed the background of the formulation of the hypothesis. The research can be described in the framework of thinking as follows:

Fig 1: The Theory of Planned Behavior



Source: Ajzen (1991)

From the framework above, the research hypothesis is as follows:
H1: Is there any influence of Entrepreneurship Attitude on Unesa Student Entrepreneurial Intention?
H2: Is there any influence of Entrepreneurship Attitudes on the Intention of Unrika Student Entrepreneurs?
H3: Is there any influence of Subjective Norms on Unesa Student Entrepreneurial Intention?
H4: Is there any influence of Subjective Norms on the Intention of Unrika Student Entrepreneurs?
H5: Is there any influence of Perception of Behavioral Control on Unesa Student Entrepreneurial Intention?
H6: Is there any influence of Perception of Behavioral Control on the Intention of Unrika Student Entrepreneurs?
H7: Is there any influence of Entrepreneurship Attitude on the Subjective Norms of Unesa Student?
H8: Is there any influence of Entrepreneurship Attitude on the Subjective Norms of Unrika Student?
H9: Is there any influence of Perception of Behavioral Control on the Subjective Norms of Unesa Student?
H10: Is there any influence of Perception of Behavioral Control on the Subjective Norms of Unrika Student?
H11: Are Subjective Norms mediating influence of Entrepreneurship Attitude on the Intention of Unesa Student Entrepreneurs?
H12: Are Subjective Norms mediating influence of Entrepreneurship Attitude on the Intention of Unrika Student Entrepreneurs?
H13: Are Subjective Norms mediating influence of Perception of Behavioral Control on the Intention of Unesa Student Entrepreneurs?
H14: Are Subjective Norms mediating influence of Perception of Behavioral Control on the Intention of Unrika Student Entrepreneurs?

3. Methodology

The population used in this study were all students of the 6th semester of economic education study program at Unrika and Unesa with 142 students with details namely:

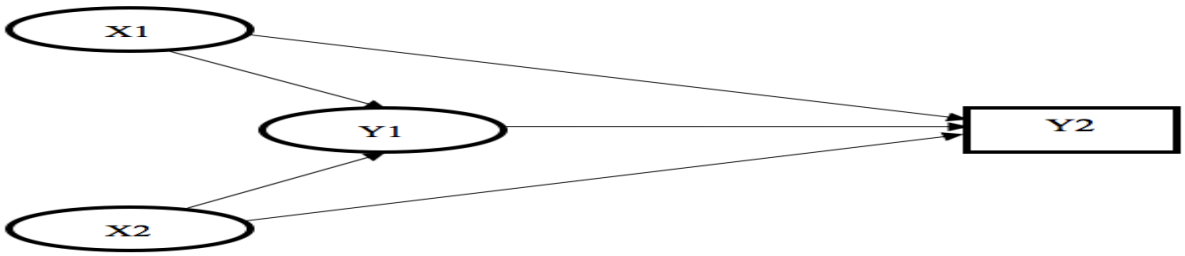
Table 1: Details of Research Population Data

No.	University	Total
1	Unesa	72
2	Unrika	70
Total		142

Source: Unrika Administration and Unesa (2018)

Sampling techniques use saturated samples. According to Sugiyono (2017), saturated sampling is a sampling technique if all of the population are used as samples. So, all populations in this study were sampled. Although the number of samples is small for analysis of Structural Equation Models (SEM), which are generally a minimum of 200 but still can be done. This is because this research uses SEM with the method of the Warp Partial Least Square (WarpPLS) approach where this approach already contains a resampling method so that it can be done in a small number of samples. The minimum requirement for conducting SEM WarpPLS analysis is 30 (Solimun, Fernandes, & Nurjannah, 2017). This research is a type of quantitative explorative research. Quantitative because data is a number. While including explorative because it aims to explore what factors influence the interests and intentions of student entrepreneurship. This research was conducted at the Economic Education Study Program at Unrika and Unesa. The study was conducted from March to October 2018.

Fig 2: Chart of Research Flow



Source: Adoption of Ridha, Burhanuddin, and Wahyu (2017)

Information: X1: Attitude toward the behavior **X2:** Perceived behavioral control
Y1: Subjective Norms **Y2:** Intention

The test used is administering a questionnaire with a Likert scale in the form of a checklist with various indicators of Perception of Behavior Control, Subjective Norms, Perception of Behavior Control and Entrepreneurial Intention. In the Likert scale, there are 5 alternative answer choices consisting of Strongly Agree (SS), Agree (S), Neutral (N), Disagree (TS), Strongly Disagree (STS). This research also provides solutions to Unrika and Unesa so that entrepreneurship learning will be better. In collecting data, researchers used a Likert scale in the form of a closed statement aimed at 6th-semester students at Unesa and Unrika universities. According to Arikunto (2010), a good research instrument must fulfill two important requirements, namely valid and reliable. Data analysis in this study used the Structural Equation Model (SEM) method of the Warp Partial Least Square (WarpPLS) approach. Partial Least Square (PLS) is part of the WarpPLS. This analysis does not require data that are normally distributed and can be used in a small number of samples. PLS is used to predict constructs in models that contain several factors and have collinear relationships. One of the software used in this study is WarpPLS. The variables in this study only contain 4 exogenous latent variables with indicators that have ordinal data. The purpose of using PLS is to conduct confirmatory factor analysis. This is done because this study only aims to find out which indicators have the highest contribution in each research variable both in Unesa and Unrika. So there is no need to do the overall structural model.

4. Results

In the WarpPLS analysis, there are several sizes of the Fit Model and Quality Indices will be explained as follows:

Table 2: Fit and Quality Indices Models

No	Model Fit and Quality Indices	Fit Criteria	Unesa Result	Information	Unrika Result	Information
1	APC	p < 0,05	0,211 (P=0,014)	Good	0,159 (P=0.041)	Good
2	ARS	p < 0,05	0,142 (P=0,052)	Good enough	0,065 (P=0,144)	Good enough
3	AARS	p < 0,05	0,105 (P=0,089)	Good enough	(0,023 (P=0,211)	Good enough
4	AVIF	acceptable if <= 5, ideally <= 3.3	1,018	Ideal	1,043	Ideal
5	AFVIF	acceptable if <= 5, ideally <= 3.3	1,104	Ideal	1,242	Ideal
6	GoF	small >= 0.1, medium >= 0.25, large >= 0.36	0,303	Ideal	0,222	Ideal
7	SPR	acceptable if >= 0.7, ideally = 1	0,7	Ideal	0,7	Ideal
8	RSCR	acceptable if >= 0.9, ideally = 1	0,940	Ideal	0,860	Ideal
9	SSR	acceptable if >= 0.7	1,000	Ideal	1,000	Ideal
10	NLBCDR	acceptable if >= 0.7	1,000	Ideal	0,7	Ideal

When there is Chi-Square sensitive to the number of samples taken, it can be seen through the other Goodness of Fit criteria with i ≥ 90 (Ghozali, 2014). That is, from the results of the fittest of the AVIF model, AFVIF when acceptable if = 5 and ideal = 3.3 with the analysis results of 65,490 and 105,960 is considered ideal because it is still included in the Goodness of Fit criteria if ≥ 90. The information conveyed on the variable profile is a combination of the identification of important indicators based on the factor load value (loading factor) with variable empirical conditions based on the average score.

Table 3: Profile of Unesa Variables X1, X2, Y1, and Y2

No	Indicator	Factor Loading	Mean Score	Suggestion
1	Behavior beliefs (X1.1)	0,946	4,4	Maintained
2	Evaluation of that consequences (X1.2)	0,930	4,3	Maintained
3	Normative beliefs (Y1.1)	0,927	3,2	Improved
4	Motivation to comply (Y1.2)	0,938	4,3	Maintained
5	Control belief (X2.1)	0,952	4,1	Maintained
6	Control belief power (X2.2)	0,982	4,3	Maintained
7	(Y2.1)	0,963	4,2	Maintained
8	(Y2.2)	0,986	4	Maintained

Table 4: Variable Profile X1, X2, Y1 and Y2 Unrika

No	Indicator	Factor Loading	Mean Score	Suggestion
1	Behavior beliefs (X1.1)	0,915	4,6	Maintained
2	Evaluation of consequences (X1.2)	0,854	4,4	Maintained
3	Normative beliefs (Y1.1)	0,840	3,1	Improved
4	Motivation to comply (Y1.2)	0,808	4,4	Maintained
5	Control of belief (X2.1)	0,852	4,3	Maintained
6	The power to Control of belief (X2.2)	0,901	4,5	Maintained
7	(Y2.1)	0,967	2,7	Enhanced immediately
8	(Y2.2)	0,989	2,4	Enhanced immediately

When the load factor (loading factor) gets bigger. indicates that indicators are increasingly strong reflecting or becoming important indicators in these variables. Of several variables. important indicators are:

a) The variable X1 with an important indicator in Unesa is X1.1 with a factor load of 0.946 for X1.1 with a factor load of 0.915 with good conditions to maintain.

b) The variable Y1 with an important indicator in Unesa is Y1.2 with a factor load of 0.938. While Unrika Y1.1 with a factor load of 0.840, with good conditions to be maintained at Unesa, Whereas Unrika must be increased.

c) The variable X2 with an important indicator in Unesa is X2.2 with a factor load of 0.982 whereas Unrika X2.2 with a factor loads of 0.982, with good conditions to maintain.

d) The variable Y2 with an important indicator in Unesa is Y2.2 with a factor load of 0.946. While Unrika Y2.2 with a factor loads of 0.989 the advice for Unesa is to defend it. Unrika must be upgraded immediately.

Table 5: Unesa's and Unrika's Path Coefficient and P-Values of Direct Effect

No.	Relationship Between Variables (Exogenous Variable → Endogenous Variable)		Unesa		Unrika	
	Exogenous Variable	Endogenous Variable	Path Coefficient	P-Value	Path Coefficient	P-Value
1	Attitude toward the behavior	Intention	0.078	0.246	-0.102	0.189
2	Subjectif norm	Intention	-0.330	0.001	0,141	0,110
3	Perceived behavioral control	Intention	0.224	0.021	0,233	0,019
4	Attitude toward the behavior	Subjectif norm	0.413	<0.001	0.469	<0.001
5	Perceived behavioral control	Subjectif norm	-0.201	0.035	0.377	<0.001

a. Effect of Student Attitudes (X1) on Entrepreneurial Intention (Y2) of Unesa with path coefficients of 0.078 and p = 0.246. Given that p is greater than 0.10 (significant level of p-value 10%) it is said to be insignificant, so the hypothesis is rejected.
b. Effect of Subjective Norms (Y1) on Entrepreneurial Intention (Y2) of Unesa with path coefficients of -0.330 and p = 0.001. Given that p is smaller than 0.01 (significant level of p-value 1%), it is said to be highly significant and negative, so that the hypothesis is accepted.
c. Effect of Perceived behavioral control (X2) on Entrepreneurial Intention (Y2) of Unesa with a path coefficient of 0.224 and p = 0.021. Given that p is less than 0.05 (significant level of p-value 5%), it is said to be positively significant, so that the hypothesis is accepted.
d. Effect of Student Attitudes (X1) on Entrepreneurial Intention (Y2) of Unrika with path coefficients of -0.102 and p = 0.189. Given that p is greater than 0.05 (significant level of p-value 5%), it is said to be insignificant, so the hypothesis is rejected.
e. Effect of Subjective Norms (Y1) on Entrepreneurial Intention (Y2) of Unrika with path coefficients of 0.141 and p = 0.110. Given that p is greater than 0.10 (significant level of p-value 10%) it is said to be insignificant, so the hypothesis is rejected.

f. Effect of Perceived behavioral control (X2) on Entrepreneurial Intention (Y2) of Unrika with path coefficients of 0.233 and p = 0.019. Given that p is less than 0.05 (significant level of p-value 5%), it is said to be positively significant, so that the hypothesis is accepted.
g. Effect of Attitude toward the behavior (X1) on Subjective Norms (Y1) of Unesa with path coefficients 0.413 and p <0.001. Given that p is smaller than 0.01 (significant level of p-value 1%), it is said to be highly significant and positive, so that the hypothesis is accepted.
h. Effect of Attitude toward the behavior (X1) on Subjective Norms (Y1) of Unrika with path coefficients 0.469 and p <0.001. Given that p is smaller than 0.01 (significant level of p-value 1%), it is said to be highly significant and positive, so that the hypothesis is accepted.
i. Effect of Perceived behavioral control (X2) on Subjective Norms (Y1) of Unesa with path coefficients -0.201 and p =0.035. Given that p is smaller than 0.05 (significant level of p-value 5%), it is said to be significantly negative, so that the hypothesis is accepted.
j. Effect of Perceived behavioral control (X2) on Subjective Norms (Y1) of Unrika with path coefficients 0.377 and p <0.001. Given that p is smaller than 0.01 (significant level of p-value 1%), it is said to be highly significant and positive, so that the hypothesis is accepted.

Table 6: Unesa's and Unrika's Path Coefficient and P-Values of Indirect Effect

No.	Relationship Between Variables (Exogenous Variable → Endogenous Variable)			Unesa		Unrika	
	Exogenous Variable	Moderating Variable	Endogenous Variable	Path Coefficient	P-Value	Path Coefficient	P-Value
1	Attitude toward the behavior (X1)	Subjective Norms (X2)	Entrepreneurial Intention (Y)	-0,136	0.044	0.066	0.212

2	Perceived behavioral control (X3)	Subjective Norms (X2)	Entrepreneurial Intention (Y)	0.066	0.206	0.053	0.261

a) Subjective Norms (Y1) mediating influence of Entrepreneurship Attitude (X1) on the Intention of Unesa Student Entrepreneurs (Y2) with path coefficients -0.136 and p =0.044. Given that p is smaller than 0.05 (significant level of p-value 5%), it is said to be significant and negative, so that the hypothesis is accepted.
b) Subjective Norms (Y1) mediating influence of Entrepreneurship Attitude (X1) on the Intention of Unrika Student Entrepreneurs (Y2) with path coefficients 0.066 and p =0.212. Given that p is greater than 0.1 (significant level of p-value 10%), it is said to be insignificant, so that the hypothesis is rejected.
c) Subjective Norms (Y1) mediating influence of Perception of Behavioral Control (X2) on the Intention of Unesa Student Entrepreneurs (Y2) with path coefficients 0.066 and p =0.206. Given that p is greater than 0.1 (significant level of p-value 10%), it is said to be insignificant, so that the hypothesis is rejected.
d) Subjective Norms (Y1) mediating influence of Perception of Behavioral Control (X2) on the Intention of Unesa Student Entrepreneurs (Y2) with path coefficients 0.053 and p =0.261. Given that p is greater than 0.1 (significant level of p-value 10%), it is said to be insignificant, so that the hypothesis is rejected.

Discussion

The attitude of Unesa students does not have an influence on student entrepreneurial intentions. This is the same as the results of research conducted by Ridha et al. (2017). Unesa students have fairly good behavior with proven time respect such as collecting lectures on time or completing them before a predetermined time limit. Dare to bear the risk of all activities carried out. Have integrity, proven by working on assignments and exams honestly and confidently. Creative and innovative in giving opinions in lectures. Independence is also reflected when they are asked to learn new material. When studying in groups, leadership spirit is also seen in them during discussion activities. Diligent and disciplined look at the way they do the assignments given. While the evaluation of the consequences of Unesa students is lower than behavioral beliefs, but the difference is not far adrift. Unesa students assess that respecting time, taking risks, integrity, confidence, creative, innovative, independent, the spirit of leadership, diligence and discipline are important things. The empirical conditions of behavioral beliefs and the evaluation of the consequences of Unesa students both have high scores but this has no effect in increasing entrepreneurial intentions. Same with Unesa, the attitude of Unrika students also does not affect the intention of student entrepreneurship. Even though they have an attitude of respect for time, risk, integrity, confidence, creative, innovative, independent, the spirit of leadership, perseverance, and discipline, this attitude is reflected in their activities at work. This is because most Unrika students are college employees. Thus the advice that can be given to Unesa and Unrika is to provide knowledge and convince them that the attitude they have can be applied when they are self-employed. Because by having an entrepreneurial attitude, they can appreciate the time. Then when they do business, they dare to bear the risk if there is a failure and face many obstacles.

They can apply the integrity attitude of students when they are self-employed by upholding honesty. The making of the products they want to make is strongly supported by having an attitude of confidence, creativity, innovation so that their products have their own characteristics compared to other products. With entrepreneurship, they can also be independent in the sense that they can have their own income regardless of the gift of parents. If they become employees, they are subordinates, but if they become entrepreneurs, they are bosses who certainly have the leadership spirit to manage their employees. When starting a business from zero the diligent attitude and discipline they have is very necessary. If this attitude is not owned, the business they are initiating will fail. Data collection techniques in the form of unstructured interviews and questionnaires with closing statements. Based on the research results of Rifkhan (2017) that attitudes, motivations, and interests in entrepreneurship have a high influence to foster interest in entrepreneurship. Whereas Andika & Madjid (2012) stated that attitudinal variables, subjective norms, and simultaneous self-efficacy significantly influence entrepreneurial intention in Unsyiah Economics Faculty students. The results

of this hypothesis test same as the results of research conducted by of Andika & Madjid (2012), Ditya & Waspada (2011), Karali (2013), and Suharti & Sirine (2011). Subjective Norms for Unesa's Intention are very significant but negative. The influence is the biggest of the Unrika students. This is because the support from Unesa is very high. Indicators of normative beliefs embodied in the possession of a business incubator unit at the University function to accommodate student business pilot project. Unesa also has an Entrepreneurship Development and Management Center Team whose job is to accommodate student business pilot project in the Faculty of Economics.

Unesa also provides PMW services that foster and provide business capital assistance competed. Finally, Unesa also provides clinics when students make PKM-K. Apart from lecturers and universities, parents and friends also received support from Unesa students. However, the higher the support from lecturers, universities, parents and friends, the more reluctant Unesa students will become entrepreneurs. It should be noted that students who are respondents in Unesa are students of economic education study programs, where they are directed to become economics teachers. After analysis, information was obtained that their passion was indeed being a teacher. Most Unesa students have different expectations from those around them. Motivation indicators to fulfill in the form of expectations of lecturers, universities, parents, and friends want them to be able to become entrepreneurs, but they want to become teachers. They prefer teaching rather than entrepreneurship. Subjective Norms owned by Unrika students have no effect on entrepreneurial intentions. Based on the analysis carried out, most Unrika students are employees. Indicators of normative beliefs are manifested in the support given by entrepreneurship seminars, entrepreneurial events, and entrepreneurial talk shows. The efforts that have been made have not been able to convince Unrika students of their entrepreneurial intentions. While the motivation indicators to meet the expectations of lecturers, organizations, parents, and friends, want them to become entrepreneurs. But their hopes are different. Because most of the students are employees, the time at work is more than the time for college.

Suggestions that can be given to Unesa is to reduce the intensity of Subjective Norms because it will reduce their student's Entrepreneurial Intentions. While the advice given to Unrika is not to focus too much or even not need to improve or improve the subjective norms of students because it will not have an impact on the student's entrepreneurial intentions. Then Unrika is advised to analyze other factors besides subjective norms which have an impact on increasing student entrepreneurial intentions. Wijaya (2009) research results state that entrepreneurial attitudes, subjective norms, and self-efficacy have an influence on entrepreneurial behavior through intention. While Sarwoko (2011) shows that entrepreneurial intentions are influenced by subjective norms and self-efficacy, where the effect is positive, the higher the support for students, the higher the intention to become entrepreneurs, as well as the higher self-esteem and mental maturity, the higher the intention entrepreneurship. The results of this hypothesis test same as the results of research conducted by of Karali (2013), Sarwoko (2011), Tong, Tong, & Loy (2011), as well as different findings from the Andika & Madjid (2012) study. Perception of Behavior Control possessed by Unesa and Unrika students have a positive and significant impact on Entrepreneurial Intention. Thus any amount of normative beliefs and their motivation does not have any impact on the Unrika student entrepreneurial intention. This is because Unesa and Unrika come from Indonesia. In Indonesia, accessing financial institutions is easily accessible to students. Such access can be in the form of online access or direct visits to the institution. Unesa and Unrika students also have similarities namely they feel easy in overcoming fatigue/boredom, especially in lecture activities.

When faced with the problem of entrepreneurial difficulties, both Unesa and Unrika students find it difficult. This is certainly a very good capital because it can be applied to entrepreneurship such as failure or the products they sell are not selling well, they will quickly find a solution. On the other hand, Unesa and Unrika students are equally trustworthy in fulfilling the agreement. This can be applied when they collaborate with other institutions so that the collaboration can run successfully because they hold the mandate. Thus the advice that can be given to Unesa and Unrika is to maintain the Behavioral Control Perception of their students. The results of the research by Suharti & Sirine (2011) show the significance of attitudinal factors in influencing the interests of student entrepreneurship. Furthermore, this study also proves the important role of contextual factors, such as academic support, social support, and the intention of entrepreneurship among students. The results of this hypothesis test same as the results of research conducted by of Andika & Madjid (2012), Azizah (2017), Kurniawan (2011), and Sarwoko (2011). From all the results of the discussion, it was

found that in Unrika, they were in the free trade zone area so they were more consumptive towards electronics because of their low price and reluctant to be entrepreneurs because, Unesa is in an environment with the same lifestyle as developed countries where the purpose of consumption is prestige rather than just meeting needs. To do entrepreneurship is still controlled by capital owners (general importers) and usually they are also descendants of entrepreneurship as well. In the free trade zone, if we want to sell an item outside the island, it will be charged by the government, and the price will be same like the price from the outside of free trade zone.

5. Conclusion and Recommendations

Based on the results of the study it can be concluded that the attitude of Unesa students influences the intention of student entrepreneurship. Actually, Unesa students have fairly good behavioral beliefs, as evidenced by their respect for time, such as collecting lectures on time or completing them before the lecturer has set a deadline. Moreover, most of their parents are workers or civil servants and not entrepreneurs. This also influences them to become individuals who rely on income from parents and then use it for consumption rather than being used for entrepreneurship because, Unesa is in an environment with the same lifestyle as developed countries where the purpose of consumption is prestige rather than just meeting needs. The advice that can be given from this research for Unesa is to maintain the behavioral beliefs of its students. Subjective Norms for Unesa's Intention are very significant but negative. The influence is the biggest instead of the Unrika students. This is because the support from Unesa is very high. Indicators of normative beliefs embodied in the possession of a business incubator unit at the University level are the function of accommodating the pilot project business of the Students. Perceptions of Behavior Control possessed by Unesa and Unrika students both have a positive and significant impact on Entrepreneurial Intention. This is because Unesa and Unrika are from Indonesia. Suggestions that can be given for unesa is precisely in order to reduce activities related to Subjective Norms. Whereas the suggestion for Unrika and Unesa is to improve Perceptions of Behavior Control in the form of various support activities related to entrepreneurial learning. Based on the conclusions above, each campus needs to improve activities related to entrepreneurial practice in order to foster entrepreneurial intentions and also to increase creativity in developing student talents in the field of entrepreneurship.

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Determinants of Profitability: A Comparative Study of Textile and Cement Sector of Pakistan

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Abstract: The intention of this research is to find the internal as well as external factors of profitability of textile and cement industries of Pakistan. Data is gathered aimed at the years of 2005-2010 from "Financial Statement Analysis of companies (non-financial) listed at Karachi Stock Exchange" by using random and convenient sampling technique. Dependent variables consist of ROA and ROE and independent variables are liquidity, leverage, growth, capital intensity, and size and market share. Out of the six variables, first four represents the internal factors and remaining two are external factors. In order to find the relationship among contingent and self-supporting variables, Panel data analysis is applied. The results of the study indicate that the liquidity and leverage impact significantly in the textile sector but growth, capital intensity, size and market share have no relevance with the profitability of this sector. In case of cement sector, liquidity, leverage and growth shows considerable effect while other factors are insignificant. This study is useful for the management of these sectors while carrying out any decision regarding internal and external variables.

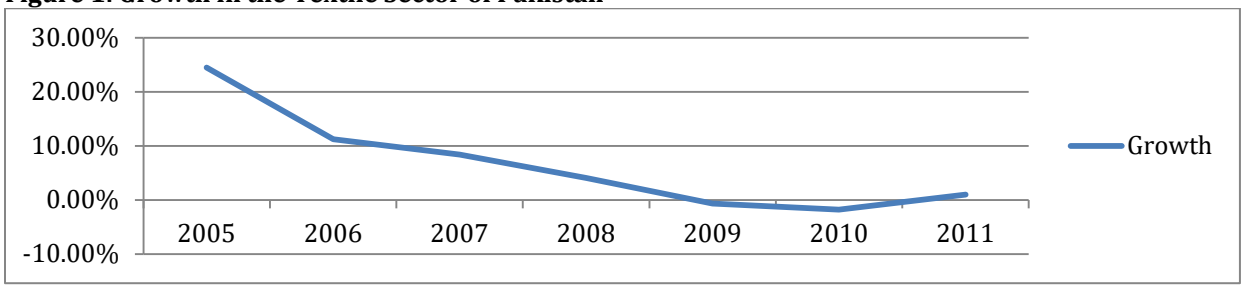
Keywords: *Profitability, internal factors, external factors, textile sector, cement sector, panel data analysis.*

1. Introduction

Competence of the business enterprise to create earnings through all company actions is referred to as profitability. Making a profit is the sole purpose of any business. Most of the time, term profit is used in the same meaning of profitability. Though they are equally inter-reliant and strongly correlated but perform different functions in business. So, in reality these two terms are very much different. Profitability refers to the relative theory whereas profit is considered to be the absolute phrase. Pakistan's economic growth is widely impacted by the textile and cement sectors. These are the major contributors of economic development and many individuals from all over the Pakistan got employment from these industries. However, from some period, these areas of industry encounter some challenges that are hindrance for their effectiveness and therefore development of the country's financial system. Textile industry was leading export industry of Pakistan by way of readymade garments and hosiery funding 544 billion PKR to total trade conferring to the 2018-19 Pakistan Economic Survey studied by Gallup Pakistan. But when its total exports which is 2,263 billion is linked to the total imports that are 5,371 billion, we come to the conclusion that our trade sector requires serious measures for growth (Gallup & Gilani, 2019). Budgetary measures and improbability in exchange rate adversely impacted the exports said by the exporters, because there is hurried cost of raw material whereas liquidity crisis intensified because of non-issuance of stuck-up repayments (Rizvi, 2019). Production of cement in Pakistan is decreased in June (2910 Thousands of tonnes) as compared to May of 2019 (3537 Thousands of Tonnes) (Tradingeconomics, 2019).

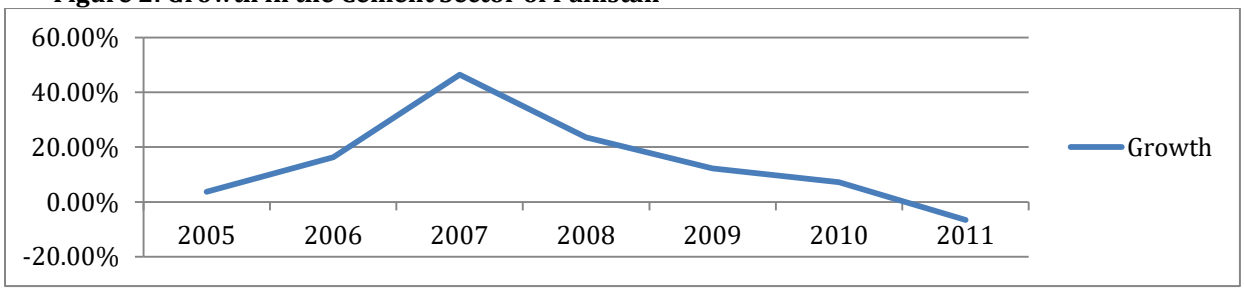
Significance of Study: The objective of this article is the relative investigation of Pakistan's textile and cement industries by checking the different variables impact on the firm's profitability. In the previous studies, much work is done on the determinants of profitability of different sectors worldwide especially banks. Reports are published in Pakistan about these sectors in which their overall factors for growth and decline according to government regulations are discussed which is only the one external factor of profitability but little work is done regarding the effects of internal and external determinants of profitability with descriptive statistics about textile sector and cement sector which are the backbone of our economy. The significant positive results pointed out by (Molyneux & Thornton, 1992; Bourke, 1989; Kwast & John, 1982; Short, 1979 and Heggested, 1977). Find support for the significant and negative effect of industry concentration on firm's productivity. He investigated external and internal factor's effect on the profitability of Class I railroads from 1996-2009 by constructing an econometric model. As the little work is done on the textile sector and cement sector in terms of profitability in Pakistan so, this paper will provide the foundation for this kind of study and helps these sectors to use the results of this research in formulating their plans. The growth charts of textile and cement sectors are as follows:

Figure 1: Growth in the Textile Sector of Pakistan



Source: (Pakistan Economic Survey 2012-13)

Figure 2: Growth in the Cement Sector of Pakistan



Source: APCMA (All Pakistan Cement Manufacturer Association)

The left behind portion of the research paper consisted of literature review under section 2, section 3 comprised of data and methodology, section 4 consisted of empirical findings and conclusion is explained in section 5.

2. Literature Review

Researchers in the previous studies divided determinants of profitability in two categories i.e. external determinants and internal determinants of profitability. The results indicate that the money supply and profits are positively and significantly related. He also recommended that growth in total market might produce possibility for banks to produce superior profits, if predominantly linked with entry obstacles. The factors which are believed to be away from the power of organization are external variables. The variables which are under the command of administration are internal determinants of profitability and these determinants are generally organized further in financial statement factors and non-financial statement factors.

External Factors of Profitability: Relationship among profitability and growth in total market was investigated by Bourke (1989) and he used the growth in money supply as the proxy for market growth. The results indicate that the money supply and profits are positively and significantly related. He also recommended that growth in total market might produce possibility for banks to produce superior profits, if predominantly linked with entry obstacles. Molyneux & Thornton (1992) also found similar results i.e. significant positive relationship of growth in total market and profitability. Raza, Farooq, & Khan (2011) carried out a research in profitability and its relationship with various factors of the firm under the title of "Firm and Industry Effects on Firm Profitability: an empirical analysis of KSE". He used financial statements of the firms, published by state bank of Pakistan from 2004-2009. Allen, Shaik, Myles, & Yeboah (2011), Independent variables consist of market share, industry effect and firm effect whereas profitability measures are ROA and ROE. He used regression technique to find the results which indicate that the dependent and independent variables are significantly related. Kessides (1990) finds the considerable affiliation of profitability with the market share by estimating oligopoly as a precise model. Number and size of companies in the marketplace refers to concentration of industry. Various researchers inspected the influence of industry concentration on the organization's profitability. Mixed results are found by all of them i.e. positive, negative and insignificant.

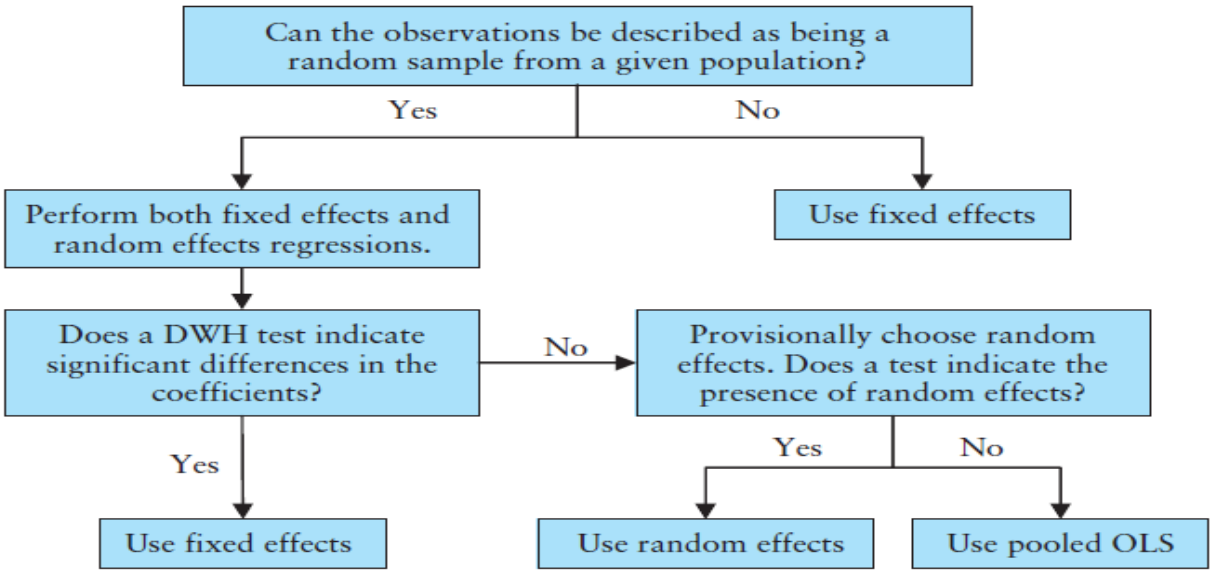
Internal Factors of Profitability: Ahmed & Khababa (1999) conducted a research on commercial banks in Saudi Arabia to assess their financial performance. For the analyses they incorporated both pooled time series data and time series data of 1987-1992. Major limitations of their research are the availability and short time series data. The profitability proxies are return on equity, earning per share and return on assets and checked its dependence on market size, concentration and business risk by employing the regression model. The results from all the three simulations indicate that company risk and bank size are major variables that explains financial performance. The study performed by Nagy, Newman, & Nelson (2009) carried out the research by taking the financial statement variables to assess the profitability of the firm. These variables include sales, 3-year return and prior year's net profit margin, firm's sector, reinvestment rate, dollar value of capital expenditures, debt-to-equity level and level of acquisition activity.

Profitability measure is ROA of the company. He concludes that these all factors are significant in shaping the ROA. Variables such as loan and deposit compositions and working costs believed to be a management controlled factors. Bank cost had the largest power to explain bank's profitability and then loan and bank's deposit composition (Fraser, Philips, & Rose, 1974). Influence of location on company's financial performance is determined by the (Vernon, 1971 and Kwast & John, 1982). The outcome revealed that the location is significantly related with profitability. Many authors perform research on financial performance regarding natural environment and they all find positive results and give reasons for their conclusions. Such as Shrivastava (1995); Dechant, Altman, Downing, & Keeney (1994) and Hart (1995) suggest that hands-on to environmental issues increases the reliability of government, employees, customers and all other key stakeholders, develops the firm image and helps to keep away from harmful response of key stakeholders.

3. Methodology

This article tries to discover the internal and external determinants of profitability of textile and cement sector. For this purpose data of 157 companies of textile sector and 19 companies of cement sector are taken from "Financial Statement Analysis of companies (non-financial) listed at Karachi Stock Exchange" comprising the years 2005-2010. I take only non-financial sector because of the importance of textile and cement sectors for the economy of Pakistan. As textile and cement industries faced extreme recession in the period from 2006 to 2010 so the data examined in this study comprises the years 2005 to 2010 for better understanding and to see the impact of extreme recession in textile and cement sectors on these variables. Secondary facts are used through random sampling technique and convenient sampling technique. Moreover, panel data set is used and process which is used for decision-making for the panel data is that proposed by (Dougherty, 2016).

Figure 3: Decision-Making Measures for Panel Data



Econometric Model: Both fixed effect and random effect models constructed for this research are as follows:
Model 1: Fixed effect model:
(1) $ROA_{it} = \beta_0 + \beta_1(liq_{it}) + \beta_2(lev_{it}) + \beta_3(g_{it}) + \beta_4(cint_{it}) + \beta_5(sz_{it}) + \beta_5(ms_{it}) + u_{it}$
Random effect model:
(2) $ROA_{it} = \beta_0 + \beta_1(liq_{it}) + \beta_2(lev_{it}) + \beta_3(g_{it}) + \beta_4(cint_{it}) + \beta_5(sz_{it}) + \beta_5(ms_{it}) + u_{it} + \varepsilon_{it}$
Model 2: Fixed effect model:
(1) $ROE_{it} = \beta_0 + \beta_1(liq_{it}) + \beta_2(lev_{it}) + \beta_3(g_{it}) + \beta_4(cint_{it}) + \beta_5(sz_{it}) + \beta_5(ms_{it}) + u_{it}$
Random effect model:
(2) $ROE_{it} = \beta_0 + \beta_1(liq_{it}) + \beta_2(lev_{it}) + \beta_3(g_{it}) + \beta_4(cint_{it}) + \beta_5(sz_{it}) + \beta_5(ms_{it}) + u_{it} + \varepsilon_{it}$

Where:

ROA_{it} = return on asset of firm i at time t	**ROE_{it} = return on equity of firm i at time t**	**liq_{it} = liquidity of firm i at time t**
lev_{it} = leverage or capital structure of firm i at time t	g_{it} = growth of firm i at time t	$cint_{it}$ = capital intensity of firm i at time t
sz_{it} = size of firm i at time t	ms_{it} = market share of firm i at time t	u_{it} = error term of firm i at time t or between firm error
ε_{it} = within firm error		

(liq, lev, g, cint are internal factors whereas sz and ms are external factors)

Liquidity: The potential rationale for organizations to keep liquid assets is four according to the literature of finance and economics. It includes the agency reason (Jensen, 1986), the tax reason (Foley, C. Fritz; Hartzell, Jay C; Titman, Sheridan; Twite, Garry, 2007), the precautionary reason (Opler, Pinkowitz, Stulz, & Williamson, 1999) and the transaction reason (Miller & Orr, 1966). Significant effect of liquidity and profitability is inspected by (Singh & Pandey, 2008) during the study about Hindalco Industries Limited. Considerable relationship was found among working capital to total asset; receivable turnover ratio, current ratio and liquid ratio with the effectiveness of Hindalco Industries Limited. Saleem & Rehman (2011) also found the noteworthy impact of all the liquidity ratios (liquid ratio, current ratio and quick ratio) on the organization's financial positions. This study used the current ratio as a proxy for liquidity which is calculated as the ratio of current assets to current liabilities.

Leverage or Capital Structure: Organization's capital structure is defined as the arrangement of long-term debts, preference shares and equity shares. Negative relationship was found by Bagchi & Khamrui (2012) in his paper in which he investigated the linkage among working capital management and organization's profitability. His had taken 10 mostly used buyer goods in India from 2001-2010. Return on asset is used as a profitability measure and independent variables were debt-equity ratio, cash conversion cycle, interest coverage ratio, age of debtors, age of creditors and age of inventory. The results showed negative relationship between profitability and both the debt and working capital factors. This study uses the debt-equity ratio as a proxy for leverage.

Growth: Growth means enhancement in the value of the deal with the passage of time. It may be calculated as cash or non-cash such as intangible assets. Hayajneh & Yassine (2011) carried out a research to find the linkage among working capital efficiency and profitability. Research also includes the variables of size, growth and liquidity. He studied 53 Jordanian industrial organizations given in Amman Exchange Market during the duration of 2000 to 2006. Outcomes suggest an affirmative and significant association of sales growth, size and liquidity in relation to profitability of the firm while it shows negative relationship with working capital variables. This research paper uses the substitution for growth is ratio of intangible assets/tangible assets.

Capital Intensity: Capital intensity deals with the use and management of fixed assets and it is the amount of real or fixed assets given relative to other factors of production, particularly labor. Mean value of ROA means that the average company in textile sector receives 0.99085% of return as percentage of its assets. Lee (2010) examined the connection among profitability and capital intensity for the U.S. restaurant industry for the period of 2000-2008 and concluded the negative connection among them. In this study total asset over sales revenue is taken in the place of capital intensity.

Size: It is believed that the firm's profitability is significantly affected by the firm's size. Khan, Jawaid, Arif, & Khan (2012) tries to look for the relationship among working capital management and profitability of four Pakistani sectors i.e. sugar and allied, chemical, engineering and textile for the duration of 2004-2009 by taking the cross sectional data. Variables of this research include debt ratio, average collection period, firm size, current ratio, inventory turnover and average payment period. Author suggests that firm's financial performance is significantly affected by firm size, current ratio, and inventory turnover in all sectors. In this study, log of sales is taken to find the impact of size on profitability.

Market Share: It indicates the proportion of a dominence in the marketplace by a particular company or product. Genchev (2012) researched to find the Bulgarian banks' impacted factors. For this purpose 22 banks were taken for the duration of 2006-2010 and variables include market share and concentration ratio. Return on equity is considered as the profitability measurement. Empirical results specified the statistically considerable and positive interconnection among market share and profitability while concentration shows no relationship with profitability. In this study, the proxy used for market share is assets/total assets of industry.

Hypothesis: In order to find the impact of internal and external factors on the profitability of textile and cement sector of Pakistan, following hypothesis are developed.

Liquidity
H_0 = liquidity has no positive impact on the profitability of textile and cement sectors
H_1 = liquidity has a positive impact on the profitability of textile and cement sectors
Leverage
H_0 = leverage has no negative impact on the profitability of textile and cement sectors
H_1 = leverage has a negative impact on the profitability of textile and cement sectors
Growth
H_0 = growth has no positive impact on the profitability of textile and cement sectors
H_1 = growth has a positive impact on the profitability of textile and cement sectors
Capital Intensity
H_0 = capital intensity has no negative impact on the profitability of textile and cement sectors
H_1 = capital intensity has a negative impact on the profitability of textile and cement sectors
Size
H_0 = size has no positive impact on the profitability of textile and cement sectors
H_1 = size has a positive impact on the profitability of textile and cement sectors
Market Share
H_0 = market share has no positive impact on the profitability of textile and cement sectors
H_1 = market share has a positive impact on the profitability of textile and cement sectors

4. Empirical Results

The Case of Textile Sector: In the textile sector 157 companies are analyzed during the period of 2005-2010 that are listed in Karachi Stock Exchange. Descriptive statistics of all the variables of textile sector is provided in table 1.

Table 1: Descriptive Statistics of Textile Sector

Variables	Observations	Mean	SD	Minimum	Maximum
ROA	848	.0099085	.1244873	-.3869673	1.736175
ROE	848	.1263471	3.459309	-14.38576	90.1775
Liq	848	1.007453	.9966363	.04	10.55
Lev	848	.4846934	70.1522	-2001.38	236.66
G	848	.0020671	.0179142	-.0179624	.3475363
Cint	848	4.179633	34.92237	.1743114	779.1205
Sz	848	6.0286	.6328159	2.220108	7.498802
Ms	848	.0063727	.0111786	.0000854	.1025491

According to this table all the variables have 848 observations. The mean value of ROA is 0.99085% and standard deviation is 12.44873% which means that from -11.45788% to 13.43958% dispersion is exist in this panel. The lowest value of this variable is -38.69673% that means the company exists in this panel that have a loss of -38.69673% as percentage of its assets and highest value is 173.6175% which represents the existence of the data of that company which earns 173.6175% as percentage of its assets and shows extraordinary performance. The mean value of another performance measure ROE is 12.63471% with standard deviation of 345.9309%. It shows that -333.29619% to 358.56561% dispersion is exists in this panel which is very high as compared to the panel of ROA. -1438.576% is the minimum value and 9017.75% is the maximum value. Similarly average age, standard deviation and lowest and largest values of independent variables are also presented in this table.

Table 2: Correlation Matrix of Textile Sector

Variables	ROA	ROE	Liq	Lev	G	Cint	Sz	ms
ROA	1.0000							
ROE	0.1812*	1.0000						
Liq	0.2227*	-0.0034	1.0000					
Lev	0.0128	-0.8950*	0.0119	1.0000				
G	-0.0387	-0.0083	-0.0355	0.0041	1.0000			
Cint	-0.0420	-0.0031	-0.0281	-0.0023	-0.0073	1.0000		
Sz	0.1100*	-0.0263	0.1089*	0.0391	0.0089	-0.4041*	1.0000	
Ms	0.0756**	-0.0067	0.1361*	0.0133	0.1937*	-0.0372	0.5757*	1.0000

Coefficients with significant at 1%= *, 5%= **, 10%= *** level of significance.

Table 2 presents the correlation among the variables. Correlation matrix shows the relationship and detects the multicollinearity among the variables. This table shows that the liquidity, leverage, size and market share has a positive impact on ROA while these variables show negative relationship with ROE. Both the models indicate that the model is good fit as f-statistic is 1.88 with significance at 10% level in fixed effect model and Wald chi^2 is 81.17 with significant at 1% level. Within R-square is greater in fixed effect model while between and overall R-square is greater in random effect model. Growth and capital intensity has a negative relation with both ROA and ROE. Secondly, no multicollinearity exists among the independent variables as market share has the highest coefficient which is 0.5757 with significant that is less than 0.8 which is according to the rule of thumb is acceptable in case of significance among independent variables.

Regression Models of Textile Sector

Table 3: Fixed Effect Model of Model 1

Variables	Coefficients	R. Std. Err.	T	P-value
Liq	.0583547	.0223157	2.61	0.010*
Lev	-.000029	.0000175	-1.65	0.100***
G	.0303456	.1477287	0.21	0.838
Cint	.0001532	.0001205	1.27	0.205
Sz	.0458075	.0304871	1.50	0.135
Ms	-.1703623	.569839	-0.30	0.765
_cons	-.3246396	.1880403	-1.73	0.086

R-square within = 0.0669, between = 0.1248, and overall = 0.0564, F statistics = 1.88, and Prob. > F = 0.0884. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 4: Random Effect Model of Model 1

Variables	Coefficients	R. Std. Err.	Z	P-value
Liq	.0293818	.0152174	1.93	0.054***
Lev	2.64e-06	.0000133	0.20	0.843
G	-.1674668	.1812491	-0.92	0.356
Cint	.0000154	.0000956	0.16	0.872
Sz	.0188485	.0141271	1.33	0.182
Ms	-.067135	.3940696	-0.17	0.865
_cons	-.1329161	.0855588	-1.55	0.120

R-square within = 0.0639, between = 0.1323, and overall = 0.0579, Wald chi^2 = 81.17, and Prob. > chi^2= 0.0000. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 5: Hausman Test of Model 1

Variables	Fixed	Random	Difference
Liq	.0583547	.0293818	.0289729
Lev	-.000029	2.64e-06	-.0000316
G	.0303456	-.1674668	.1978123
Cint	.0001532	.0000154	.0001378
Sz	.0458075	.0188485	.026959
Ms	-.1703623	-.067135	-.1032273

chi^2= 20.51, and Prob. > chi^2= 0.0004

Table 3 and 4 represents the fixed effect model and random effect model using the profitability measure of ROA. It shows that coefficients of liquidity and leverage are significant at 1% and 10% level of significance in fixed effect model and all other variables are insignificant while in random effect model, only liquidity is significant at 10% level of significance and all other variables are insignificant. In order to check that which model is best for textile sector, Hausman Specification test is applied. Table 5 shows that the results of fixed effect model are appropriate as the chi^2 is 20.51 which are significant at 1% level of significance. Similarly, fixed effect model and random effect model of textile sector with taking the performance measure of ROE is presented in table 6 and 7.

Table 6: Fixed Effect Model of Model 2

Variables	Coefficients	R. Std. Err.	T	P-value
Liq	.1327768	.0715603	1.86	0.066***
Lev	-.0446272	.0011886	-37.55	0.000*
G	-.1930844	.849128	-0.23	0.820
Cint	.0015526	.0011737	1.32	0.188
Sz	.3820803	.2854241	1.34	0.183
Ms	-5.256948	7.606985	-0.69	0.491
_cons	-2.261787	1.722722	-1.31	0.191

R-square within = 0.8118, between = 0.7230, and overall = 0.7976,
F statistics = 276.07, and Prob. > F = 0.0000. Variable is significant at
* 1, ** 5, and ***10% level of significance (two-tailed).

Table 7: Random Effect Model of Model 2

Variables	Coefficients	R. Std. Err.	Z	P-value
Liq	.0236755	.0343244	0.69	0.490
Lev	-.0441848	.0012129	-36.43	0.000*
G	-.8753061	1.114892	-0.79	0.432
Cint	-.0001805	.001442	-0.13	0.900
Sz	.0401711	.1926212	0.21	0.835
Ms	.2736867	4.525319	0.06	0.952
_cons	-.1179607	1.197832	-0.10	0.922

R-square within = 0.8111, between = 0.7474, and overall = 0.8012, Wald chi^2 = 1929.83, and Prob. > chi^2= 0.0000. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 8: Hausman Test of Model 2

Variables	Fixed	Random	Difference
Liq	.1327768	.0236755	.1091013
Lev	-.0446272	-.0441848	-.0004423
G	-.1930844	-.8753061	.6822217
Cint	.0015526	-.0001805	.0017331
Sz	.3820803	.0401711	.3419091
Ms	-5.256948	.2736867	-5.530634

chi^2= 3.52, and Prob. > chi^2= 0.4748.

Table 6 and 7 shows that the coefficients of liquidity and leverage are significant at 10% and 1% level of significance in fixed effect model and rest of the variables shows insignificant behavior with ROE while according to random effect model only leverage is significant at 1% level of significance. It also shows that model is good fit as the f-statistic is 276.07 with significant at 1% level and Wald chi^2 is 1929.83 which is also significant at 1% level of significance. Within R-square is greater in fixed effect model whereas between and overall R-square is greater in random effect model. After that Hausman test is applied to check the applicability of fixed effect or random effect model. Table 8 shows that the chi^2 is insignificant with the value of 3.52. It means that the results of random effect model are favorable. But in order to further check the significance of random effect model Breusch and Pagan Lagrangian multiplier test is used which shows that chi^2 is still insignificant at the value of 2.42.

Breusch and Pagan Lagrangian Multiplier Test for Random Effects: chi^2= 2.42, and Prob. > chi^2= 0.1194. So, in this case results of pooled ordinary least square regression are favorable for model 2 in the textile sector that is given in table 9.

Table 9: Pooled Ordinary Least Square Regression for Model 2

Variables	Coefficients	R. Std. Err.	Z	P-value
Liq	.0210888	.029678	0.71	0.478
Lev	-.0441511	.0012658	-34.88	0.000*
G	-.9419919	1.339443	-0.70	0.482
Cint	-.0002542	.0014502	-0.18	0.861
Sz	.0323436	.1888767	0.17	0.864
Ms	.5739722	4.462153	0.13	0.898
_cons	-.0691342	1.178465	-0.06	0.953

R-square= 0.8012, F statistics = 267.59, and Prob. > F = 0.0000. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

According to table 9, only coefficient of leverage is significant at 1% level of significance whereas all other variables are insignificant and the model is good fit as the f-statistic is 267.59 with significant at 1% level of significance. R-square is 80.12% which means that the independent variables explain the dependent variable up to 80.12%.

The Case of Cement Sector: 19 companies are selected for the period of 2005-2010 from the Karachi stock exchange. Descriptive statistics and correlation matrix of both the models of cement sector are given in table 10 and 11.

Table 10: Descriptive Statistics of Cement Sector

Variables	Observations	Mean	SD	Minimum	Maximum
ROA	110	.0271246	.1283478	-.2477702	.4382894
ROE	110	-.2260918	2.527431	-26.18031	1.330472
Liq	110	.8779091	.5813778	.17	3.02
Lev	110	3.271818	16.68617	-8.24	175.8
G	110	.0052271	.0245448	0	.2074556
Cint	110	5.707904	19.70391	.4002351	148.313
Sz	110	6.482374	.5195719	4.477555	7.420457
Ms	110	.0509479	.0482286	.0051737	.2269716

This table shows that all the variables have 110 observations and the average age of ROA is 2.71246% with standard deviation of 12.83478%. It means that the panel is dispersed from -10.12232% to 15.54724% and average value signify that the average firm in cement sector gets 2.71246% return as percentage of its assets. Its minimum value indicate the existence of firm that earns loss of -24.7702% as percentage of its assets and it is the very weak firm in this sector and maximum value represents the extraordinary firm in the market that earns 43.82894% return as percentage of its assets. Similarly the mean, standard deviation, minimum and maximum values for other dependent and independent variables are shown in this table.

Table 11: Correlation Matrix of Cement Sector

Variables	ROA	ROE	Liq	lev	G	Cint	sz	ms
ROA	1.0000							
ROE	0.2439**	1.0000						
Liq	0.5103*	0.1321	1.0000					
Lev	-0.1611***	-0.9945*	-0.1020	1.0000				
G	-0.0728	0.0176	-0.0075	-0.0234	1.0000			
Cint	-0.1131	0.0065	-0.1366	-0.0200	-0.0337	1.0000		
Sz	0.3228*	0.1144	0.2916*	-0.0826	-0.0736	-0.5916*	1.0000	
Ms	0.0601	0.0972	0.2344**	-0.0879	-0.0863	-0.1051	0.6563*	1.0000

Coefficients with significant at 1%= *, 5%= **, 10%= *** level of significance.

According to table 11 liquidity, size and market share are positively correlated with ROA and leverage, growth and capital intensity negatively linked with ROA and in case of ROE, only leverage has a negative relationship with profitability while all other variables shows positive behavior towards profitability. In case of multicollinearity the largest coefficient is of market share and size i.e. 0.6563 with significance which is less than 0.8 which shows no multicollinearity. So, regression can be run on these models.

Regression Models of Cement Sector

Table 12: Fixed Effect Model of Model 1

Variables	Coefficients	R. Std. Err.	T	P-value
Liq	.0995791	.0353912	2.81	0.011**
Lev	-.0002644	.0001493	-1.77	0.094***
G	1.162307	.3686983	3.15	0.006*
Cint	-.0009313	.0006015	-1.55	0.139
Sz	-.0408656	.0500823	-0.82	0.425
Ms	-1.074236	.689411	-1.56	0.137
_cons	.2594441	.3337747	0.78	0.447

R-square within = 0.2727, between = 0.0028, and overall = 0.0591, F statistics = 9.09, and Prob. > F = 0.0001. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 13: Random Effect Model of Model 1

Variables	Coefficients	R. Std. Err.	Z	P-value
Liq	.1023326	.0207764	4.93	0.000*
Lev	-.0006956	.0001953	-3.56	0.000*
G	-.0591911	.1840029	-0.32	0.748
Cint	.0013829	.0006276	2.20	0.028**
Sz	.1333639	.0487375	2.74	0.006*
Ms	-1.036249	.3356505	-3.09	0.002*
_cons	-.8800807	.3072638	-2.86	0.004

R-square within = 0.1757, between = 0.6775, and overall = 0.3952, Wald chi^2 = 172.18, and Prob. > chi^2= 0.0000. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 14: Hausman Test of Model 1

Variables	Fixed	Random	Difference
Liq	.0995791	.1023326	-.0027534
Lev	-.0002644	-.0006956	.0004313
G	1.162307	-.0591911	1.221498
Cint	-.0009313	.0013829	-.0023142
Sz	-.0408656	.1333639	-.1742295
Ms	-1.074236	-1.036249	-.0379869

chi^2= 27.71, and Prob. > chi^2= 0.0001.

Table 12 and 13 shows the fixed effect and random effect model of cement sector in case of ROA as performance measure. It shows that coefficients of liquidity, leverage and growth are significant at 5%, 10% and 1% respectively while all other variables are insignificant in fixed effect model. In random effect model coefficients of liquidity, leverage, size and market share are significant at 1% level of significance; capital intensity is significant at 5% level of significance whereas growth is insignificant. Model is good fit in both the techniques as f-statistic is 9.09 and Wald chi^2 is 172.18 with both significant at 1% level of significance. Within R-square is greater in fixed effect model whilst between and overall R-square is greater in random effect model. After that hausman test is applied to check the applicability of fixed effect model or random effect model and according to table 14, chi^2 is 27.71 with significant at 1% that means the results of fixed effect model are suitable. Similarly the same procedure is applied by taking the performance measure of ROE. The fixed effect model and random effect model are presented in table 15 and 16.

Table 15: Fixed Effect Model of Model 2

Variables	Coefficients	R. Std. Err.	T	P-value
Liq	.1057341	.0548355	1.93	0.070***
Lev	-.1494851	.0003151	-474.35	0.000*
G	3.035041	1.350541	2.25	0.037**
Cint	-.0022584	.0016483	-1.37	0.187
Sz	-.086105	.1375031	-0.63	0.539
Ms	-.7551035	1.40182	-0.54	0.597
_cons	.7638331	.9065111	0.84	0.411

R-square within = 0.9936, between = 0.9577, and overall = 0.9872, F statistics = 1.78e+06, and Prob. > F = 0.0000. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 16: Random Effect Model of Model 2

Variables	Coefficients	R. Std. Err.	Z	P-value
Liq	.1107699	.0444422	2.49	0.013**
Lev	-.1499485	.0001524	-983.87	0.000*
G	.8156351	1.092561	0.75	0.455
Cint	.0013966	.0018674	0.75	0.455
Sz	.2007593	.1463152	1.37	0.170
Ms	-1.071583	1.051832	-1.02	0.308
_cons	-1.094105	.9399708	-1.16	0.244

R-square within = 0.9931, between = 0.9801, and overall = 0.9909, Wald chi^2 = 3.15e+06, and Prob. > chi^2= 0.0000. Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

Table 17: Hausman Test of Model 2

Variables	Fixed	Random	Difference
Liq	.1057341	.1107699	-.0050359
Lev	-.1494851	-.1499485	.0004634
G	3.035041	.8156351	2.219406
Cint	-.0022584	.0013966	-.0036549
Sz	-.086105	.2007593	-.2868643
Ms	-.7551035	-1.071583	.3164799

chi^2= 14.84, and Prob. > chi^2= 0.0215.

According to the results of table 15 and 16, in fixed effect model coefficients of liquidity, leverage and growth are significant at 10%, 1% and 5% level of significance respectively and remaining variables are insignificant. Market share is negative in cement sector and in model 1 of textile sector but it is irrelevant in all the models. From the previous text, (Boulding & Staelin, 1990) found an insignificant results for market share and profitability. In random effect model liquidity and leverage are significant at 5% and 1% level of significance respectively and rests of the variables are insignificant. Model is god fit as f-statistic and Wald chi^2 is significant at 1% level of significance. Within R-square is greater in fixed effect model, whereas between and overall R-square is greater in random effect model. In order to check that results of which model is used, hausman test is applied and it shows the favorable behavior towards fixed effect model as chi^2 is 14.84 which is significant at 5% level of significance.

5. Interpretation, Discussion and Conclusion

Table 18: Final Results of Textile and Cement Sector

Variables	Textile sector		Cement sector	
	Coefficients of model 1	Coefficients of model 2	Coefficients of model 1	Coefficients of model 2
Liq	.0583547*	.0210888	.0995791**	.1057341***
Lev	-.000029***	-.0441511*	-.0002644***	-.1494851*
G	.0303456	-.9419919	1.162307*	3.035041**
Cint	.0001532	-.0002542	-.0009313	-.0022584
Sz	.0458075	.0323436	-.0408656	-.086105
Ms	-.1703623	.5739722	-1.074236	-.7551035
_cons	-.3246396	-.0691342	.2594441	.7638331
R-square	within = 0.0669, between =0.1248 overall = 0.0564	0.8012	within = 0.2727 between=0.0028 overall = 0.0591,	within = 0.9936, between= 0.9577 overall = 0.9872,
F-statistic	1.88***	267.59*	9.09*	1.78e+06*

Variable is significant at * 1, ** 5, and ***10% level of significance (two-tailed).

According to table 4.18, liquidity is positive in all cases and shows the significant behavior with profitability except in model 2 of textile sector the positive and significant behavior of liquidity is according to the hypothesis and consistent with the previous research such as the researches of (Saleem & Rehman, 2011 and Nandi, 2012) as well as the positive and insignificant results of liquidity were also found by (Nandi, 2012) while conducting his research in Bharat Heavy Electrical Ltd for a period of 11 years. In case of leverage or capital structure, it is negative and significant in both the models of textile and cement sector. These results are also according to the hypothesis of this thesis and same as some of the previous authors found in their studies such as (Hayajneh & Yassine, 2011; Şamiloğlu & Demirgüneş, 2008; Bagchi & Khamrui, 2012 and Obert & Olawale, 2010). Growth is positive and significant only in case of cement sector as per the hypothesis but in case of textile sector, in model 1 it is positive but insignificant and in model 2 it is negative and insignificant. Insignificant behavior of growth in textile sector shows that it has no relationship with profitability. Both types of results have some resemblance with the previous literature such as positive and significant results found by (Hayajneh & Yassine, 2011; Şamiloğlu & Demirgüneş, 2008 & Coad, 2007).

No relationship among growth and profitability was found by (Fitzsimmons, Jason R; Steffens, Paul; Douglas, Evan J, 2005). Capital intensity is negative in both of the models of cement sector and in model 2 of textile sector but it shows insignificant behavior with profitability in both the sectors. It is not according to the hypothesis and in the earlier studies (Lucius, Harold W; Habte-Giorgis, Berhe; Lee, Jooh, 2008) found no connection of capital intensity with return on asset. Size of the firm is positive in case of textile sector and negative in cement sector but have insignificant results. In the earlier studies Şamiloğlu & Demirgüneş (2008) and Molyneux, Philip, William, & John (1994) investigated no connection among size and profitability. In random effect model coefficients of liquidity from the above discussion, it is found that the liquidity and leverage considerably influences the textile sector but capital intensity, growth, size and market share shows no affiliation with profitability of this sector. In case of cement sector, liquidity, leverage and growth have a significant impact on profitability but capital intensity, size and market share not affects the profitability of this sector. So, we conclude that in general the internal factors affect the profitability of these sectors but external factors have no concern with these sectors.

Conclusion

The textile business is considered as the major and essential sector of Pakistan. It has the main role in contributing towards employment, exports and country's GDP. For the economy of Pakistan, it acts as the backbone. Out of total manufacturing of Pakistan, textile sector contains 38%. Cement industry is also the very important sector of Pakistan as it has the very critical and essential role in the socio-economic improvement. Growth in this sector is an indicator for monitory action. This study has been undertaken to scrutinize the internal and external determinants of profitability of textile and cement sector of Pakistan. Data is collected through secondary source which is "Financial Statement Analysis of companies (non-financial)

listed at Karachi Stock Exchange" from 2005-2010 as this is the period of extreme recession for both the industries. The results of the study indicate the significant behavior of internal factors whereas outside factors are irrelevant from the profitability of textile and cement sectors as the liquidity and leverage shows much effect on profitability in case of textile sector and in cement sector, with the liquidity and leverage, growth as well affects significantly but capital intensity, size and market share shows insignificant behavior.

This study is useful for the management of textile and cement sectors as well as the investors that it provides information about the factors at which the management should emphasize such as the management should not need to worry about the size and market share of the industry as well as capital intensity is also not a problem for these sectors. It is recommended to the firm managers that they should concentrate on working capital management to ensure the sound liquidity position of the company. They should also focus on the leverage as it is negative in all cases which mean that industry's return on equity share is less than the cost of borrowing money. This study is also useful for the people who want to invest in these sectors. Moreover due to the comparative and empirical nature of this study, upcoming investigators will also find it useful. Further, they can reproduce the results of this study on other industries and also explanation for the irrelevant performance of external factors for these industries can also be the next topic for future researchers. Restrictions for this study are the use of limited variables and shorter time period as important external variables are overlooked like inflation, industry concentration and regulation etc.

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The Influencing Factors on Taxpayer Compliance: A Conceptual Approach

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Abstract: Starting from the assumption that the problem of taxpayer compliance is important issues throughout the world, both in developed countries and in developing countries because if the taxpayer does not comply, it will cause the desire to do so acts of avoidance, evasion and tax neglect. This research seeks to find out to what extent taxpayers registered with SAMSAT Bekasi City fulfill Motorized vehicle tax liability. Drawing from institutional theory, this study has six objectives: (i) to find out the application of understanding of regulations taxation of taxpayer compliance, (ii) to determine the application of sanctions tax on taxpayer compliance, (iii) to determine the application of the tax rate to taxpayer compliance, (iv) to determine the effect of the application of preferences risks to taxpayer compliance. Therefore, this research contributes to the development of science knowledge and is expected to apply the theory that has been obtained specifically regarding the influence of understanding of tax regulations, tax sanctions, risk preferences and the tax rate for taxpayer compliance.

Keywords: *Understanding of tax regulations, Tax sanctions, Tax rates, Risk preferences, Taxpayer compliance.*

1. Introduction

In general, tax is compulsory contributions paid by the people to a country which useful for the benefit of government and society because tax is state revenue that will be used for the construction of public facilities. Therefore, taxes are important for state income. National development is one of the ongoing government activities continuously. State revenue in 2018 amounted to Rp1,942.3 trillion or 102.5% with the tax ratio reaches 11.5% of the increased Gross Domestic Product (GDP) by 0.8% from 2017 (Kemen, 2019). Even so, the acceptance ratio tax in Indonesia is the lowest among the G-20 countries and countries emerging markets. To be equal to developing countries, Indonesia needs to have a tax ratio of 20% of GDP. To achieve this target the government seeks to reform taxation in various ways, one of which is building tax compliance and awareness. Level of compliance Indonesian people in paying taxes are still very low compared to other countries, as a comparison of the tax ratio in Malaysia of 16%, the Philippines 14%, Thailand 17%, South Korea 25%, South Africa 27%, and Brazil 34% (Detik Finance, 2018). In Bekasi city of Indonesia, data from the Tribun 2018 showed the local tax target and realization in Bekasi as in Table 1.

Table 1: Tax Target and Realization Motorized Vehicles

Tax Target	Realization	Percentage
Rp. 928,833,000,000	Rp. 326,292,255,850	35.13%

Based on the Table 1 it shows that tax target in Bekasi will reach Rp. 928,833,000,000, but the realization was 35.13% or Rp. 326,292,255,850, with a total of 1,459,933 units of motorized vehicles. In April 2018, 546,922 units of vehicles have not been paid annual taxes motorized vehicles or 37.46% (Tribun, 2018). The results of previous studies stated that tax sanctions have a significant relationship with taxpayer compliance. In January 2019, the number of motorized vehicles was at Bekasi as many as 1,613,317 units, while the number of motorized vehicles is as much 620,073 units are still in arrears on motor vehicle tax with the potential for mandatory receivables the tax is estimated to be more than IDR 186,000,000,000. According to research results in the field the reason Bekasi residents are in arrears in tax payments is because lack of awareness of paying taxes and his financial condition (Tempo, 2019). Based on the above, the researcher wants to conduct a research related to tax compliance. One reason for the low morale of a tax is a tax rate that is too high so it is burdensome for the mandatory tax. In the study of Atawodi and Ojeka (2012) high tax rates is a factor the most important thing that causes non-compliance with taxes. Tax rate motorized vehicles are regulated in Law No. 28 of 2009 article 6, namely for first motor vehicle ownership is at least 1% (one percent) and the highest of 2% (two percent). There are a few studies related to the effect of tax rates on taxpayer compliance such as research conducted by Cahyani and Naniek (2019), Tawas, Poputra, and Lambey (2016), Helhel and

Ahmed (2014), Atawodi and Ojeka (2012) shows that tax rates have a positive and significantly on taxpayer compliance.

In contrary, study conducted by Mas'ud, Aliyu, and Gambo (2014) which the results of the study tax rates have, a negative and significantly on taxpayer compliance, and research conducted by Mustofa, Kertahdi and Mirza (2016), Yusro and Kriswanto (2013) which stated that the tax rate is not affect the compliance of taxpayers. In addition, an understanding of tax regulations is also a factor which affects taxpayer compliance. If taxpayers understand more about taxation regulations, the more taxpayers will understand the sanctions that will be accepted if they neglect their tax obligations (Ananda, Kumadji, & Husaini, 2015). There are several studies related to understanding regulations taxation of taxpayer compliance which is the result of the research understanding of tax regulations has a positive and significantly relationship with mandatory compliance taxes (Cahyani & Naniek 2019, Mareti & Dwimulyani 2019, Asrianti 2018, Utari & Setiawan 2019, Ananda, et al., 2015, Adiasa 2013). The results of the study are inversely proportional to research by Syah and Krisidiyawati (2017), Andinata (2015), Mas'ud et al. (2014) in which the understanding of tax regulations has no relationship with taxpayer compliance.

Furthermore, another factor that is considered to affect tax compliance is tax sanctions. There are several studies related to the relationship between tax sanctions with taxpayer compliance conducted by Cahyani and Naniek (2019), Mareti and Dwimulyani (2019), Asrianti (2018), Syah and Krisdiyawati (2017), Setiawan and Meliana (2017), Tawas, et al. (2016), Helhel and Ahmed (2014), Ardyanto and Utaminingsih (2014) shows that tax sanctions have a positive and significantly on taxpayer compliance. The results of this study are inversely proportional to that of the study conducted by Rahmawati and Yulianto (2018), Andinata (2015), Pranata, Hamdi, and Herawati (2015) which states that tax sanctions do not have a relationship with tax taxpayer compliance. According to Alabede, et al. (2011) things that must be considered in taxpayers making tax payments is a risk that taxpayers must consider before making tax payments. Torgler (2003) conveys that decision a taxpayer can be influenced by his behavior towards the risks faced. Furthermore, the purpose of this study is to determine understanding of tax regulations, tax sanction tax rate and risk preference on the taxpayer compliance.

2. Theoretical Perspective

Prospect Theory: Prospect theory is a theory that explains how one takes decisions in uncertain conditions. Prospect theory was first developed by Daniel Kahneman and Amos Tversky in the early 1980s, where this theory is includes two scientific disciplines namely psychology and economics which is an analysis a person's behavior in making decisions between two choices. Related research uses prospect theory as a theoretical basis for examines taxpayer compliance with risk preferences as moderation, which is Mareti and Dwimulyani (2019), Irawati and Sari (2019), Tambun and Witriyanto (2016), Setiawan and Meliana (2017), Ardyanto and Utaminingsih (2014), Adiasa (2013), Aryobimo and Cahyonowati (2012), Alabede, et al. (2011), and Torgler (2003). The relationship of this research to prospect theory is to explain preferences risks can affect taxpayer compliance. The results of previous studies stated that tax sanctions have a significant relationship with taxpayer compliance. If a taxpayer has high risk, the taxpayer will not necessarily pay the obligation the tax because if the taxpayer has the risk seeking nature though taxpayers have a high risk then it will not affect taxpayers to keep paying taxes, whereas taxpayers who have the risk aversion if taxpayers have low risk, the taxpayers will avoid it tax liability.

Theory Planned of Behavior: Theory of planned behavior is a theory that emphasizes the rationality of human conduct is likewise in the conviction that the objective conduct is beneath control of individual consciousness. According to Ajezen (1991), individual behavior is influenced by behavioral intention towards that behavior. There are three Components in theory planned behavior, include: Behavioral beliefs, individual beliefs will result from a behavior and evaluation of these results (beliefs strength and outcome evaluation), such as taxpayer awareness. This theory explains that taxpayers will comply or not in their obligations in the field of taxation by considering the benefits and effects of his actions in paying taxes. In addition the taxpayer will consider the information obtained from outside. Thus, taxpayers will be influenced by certain factors in his actions are control of trust. Research that uses theory of planned behavior as a theoretical basis for examining taxpayer compliance, Widanaputra and Ratnadi (2019) using the independent variable awareness

of taxpayers, obligations moral, and environment, Novianti and Dewi (2017) with independent variables which used is tax amnesty, and Nugraheni and Purwanto (2015) with variables independent awareness of taxpayers, tax knowledge and understanding, sanctions tax, the tax authority, attributable justice, the quality of tax services, procedural justice, and interactional justice.

Hypothesis and Thinking Framework: The development of hypotheses in this study is based on factors that are allegedly having an influence on the level of tax compliance, so that it can formulate as follows:

Effects of Understanding of Taxation Regulations on Taxpayer Compliance: An understanding of taxation is needed so that taxpayers understand; understand, to be able to apply what is contained in the regulations listed. In research Cahyani and Naniek (2019), Mareti and Dwimulyani (2019), Utari and Setiawan (2019), Asrianti (2018), Mustofa, dkk (2016), Ananda, et al. (2015), and Adiasa (2013) examine the influence of understanding of regulations taxation of taxpayer compliance. The results of previous studies stated that understanding of tax regulations has a significant effect on taxpayer compliance. The hypothesis can be formulating as follows:

H1: Understanding tax regulations has a significant on rates taxpayer compliance.

Effects of Tax Sanctions on Taxpayer Compliance: Tax sanctions must be given as a form of punishment for taxpayers who are breaking the rules will be a deterrent so as not to repeat it again so creating an increase in tax compliance. The various studies by Cahyani and Naniek's (2019), Mareti and Dwimulyani (2019), Asrianti (2018), Mustofa, et al. (2016), Syah and Krisdiyawati (2017), Setiawan and Meliana (2017), Tawas, et al. (2016), Helhel and Ahmde (2014), Ardyanto and Utaminingsih (2014) tested tax sanctions for taxpayer compliance. The results of previous studies stated that tax sanctions have a significant relationship with taxpayer compliance. Based on description above, then the hypothesis can be formulated as follows:

H2: A Tax sanction has a significant effect on taxpayer compliance.

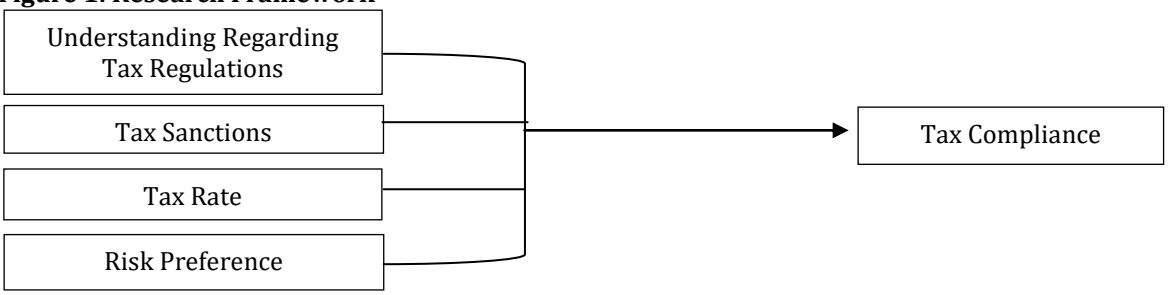
Effect of Tax Rates on Taxpayer Compliance: The tax rate is the amount of value that must be paid by taxpayers to country through the fiscus. In the study of Atawodi and Ojeka (2012) stated that exorbitant tax rate cause taxpayer non-compliance. In the research of Cahyani and Naniek (2019), Tawas, et al. (2016), Helhel and Ahmed (2014), and Atawodi and Ojeka (2012) examine the tax rate on taxpayer compliance. The results of previous studies stated that the tax rate has significant effect taxpayer compliance. It can be formulated hypothesis as follows:

H3: Tax rates have a significant effect on taxpayer compliance.

Effect of Risk Preference on Taxpayer Compliance: According to Torgler (2003) Risk preferences can affect a person's decision taxpayers against the risks faced. The risk of being the one considered taxpayers in paying taxes (Alabede, et al., 2011). When risk preferences have a strong relationship with taxpayer compliance, then the level of taxpayer compliance will be low. In the research of Dwi, et al. (2018) as well Aryobimo and Cahyonowati (2012) risk preferences has a positive effect on taxpayer compliance. On the other hand, in the research of Irawati and Sari (2019), Setiawan and Meliana (2017), Adiasa (2013) risk preference has no effect on compliance taxpayer. Based on the description, the hypothesis can be formulated as following:

H4: Risk preference has a significant effect on taxpayer compliance.

Figure 1: Research Framework



3. Proposed Method

The method in this study is a questionnaire survey distributed to taxpayers registered at SAMSAT Bekasi City. The population in this study is entire taxpayers registered at SAMSAT Bekasi with consisting 1.613.317. Samples obtained in this study were 99 respondents. This study intends to employ accidental sampling. It is further suggested that future studies should target a sample of Bekasi city. This study tries to get the opinion of taxpayers in Bekasi City SAMSAT who is paying motor vehicle taxes. It is further suggested that future empirical studies should target a wider sample and be able to expand the object of research throughout the SAMSAT in the Bekasi area so that this research can be used universally.

4. Conclusion

The conceptual paper in this study to investigate about factors which affects taxpayer compliance, especially in SAMSAT, Bekasi City this matter is important because taxes are useful state income to finance state expenditure, build public facilities, as well as for sustainability development. This research begins with the problem of taxpayer compliance in Indonesia which is still low and requires improvements to taxpayer compliance. Problems with taxpayer compliance also occur with motor vehicle tax at SAMSAT Bekasi. This study aims to examine and determine the factors that influence taxpayer compliance with risk preference as a moderating variable. Factors that affect taxpayer compliance measured by 26 statements the findings in this study are expected to contribute to improve taxpayer compliance and to explore impacts various factors such as understanding taxation regulations, tax sanctions, tax rate and risk preferences. It is hoped that the objectives of this research will be achieved to contribute to the taxpayer and SAMSAT of Bekasi City.

In order to be able to anticipate other factors that will later influence tax compliance. SAMSAT Bekasi are expected to be more active in providing information to the whole community through tax socialization to improve tax knowledge and understanding both directly and through the mass media regarding the importance of paying taxes on time, increasing supervision with zebra operations, and improving services to minimize the existence of brokers. Then, for further research it is expected to be able to add other variables such as awareness of taxpayers, taxation socialization, service quality of fiskus and use the taxation understanding variable as a moderating variable and expand the object of research not only to one SAMSAT but to all SAMSAT in the Bekasi area so that research can be used universally. Overall, the results of this conceptual paper must also produce insights important for SAMSAT Bekasi and can be a reference for research next.

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Modeling Cross Category Purchase Decision Making with Consumers' Mental Budgeting Control Habit

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Abstract: Cross-category decision making is an ongoing research in decision science. Cross-category modeling is a powerful tool for big data and business analytics. Cross-category decision making involves evaluating multiple categories for complementary/substitutional utilities. This paper examines consumers' mental budgeting control habit for its impact on cross purchase decisions. This factor has not been examined in existing cross modeling literature. This paper fits a base cross category model and a budgeting control habit cross model using a consumer grocery shopping dataset. The results show that by incorporating this variable in the cross model, model fit score and prediction accuracy are significantly improved. The budgeting control habit factor has significant moderating effects on price effects and cross price effects. In addition to providing the modeling technique, this paper also finds that consumers classify basket items into root and add-on categories. The common sense that price drop boosts sales is only true for the root category items. Price drop of add-on items may trigger consumers reconfiguring their basket items but not necessarily increase sales of the add-on items themselves.

Keywords: *Cross-category decision, cross-category modeling, consumer behavior, mental budgeting.*

1. Introduction

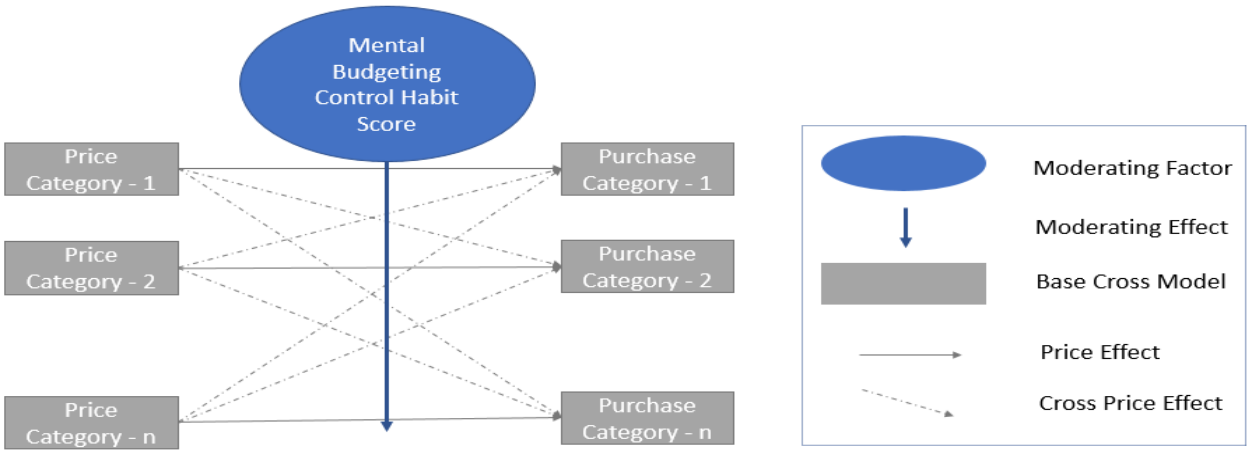
Cross purchase modeling (cross model) is a method to simultaneously analyze multiple product categories for their interrelated influences on consumers' decisions to purchase each category (Yang and Sudharshan 2019). For example, Cake Mix and Frosting are often purchased together, would a discount on Cake Mix, impact sales of Frosting and how? Cross category models are important tools in business administration such as forecasting demand for grocery stores (Manchanda et al., 1999, Duvvuri et al., 2007), understanding and predicting multiple financial products choices (Li et al., 2005), and utilizing spatial distance and assortment layout of multiple categories for better shopping experience (Leeflang and Parreño-Selva, 2012, Hong et al., 2016). Extant cross models have made considerable progress in modelling heterogeneity across individuals in cross-category purchase effects. However, they do not model the impact of variations in individual budgets from shopping occasion to shopping occasion. Such variations are likely to occur as suggested by Mental budgeting/accounting theory (Thaler, 1985, Heath and Soll, 1996) which suggests that consumers explicitly or implicitly put a mental effort in maintaining a spending budget and justify unplanned expenditure by relabeling money from one category to another (Stilley et al., 2010). As Vohs and Faber (2007) elaborated, some consumers exhibit greater budget control than others. To extend the cross-category modeling method, this paper studies the impact of incorporating budget control habit factor (**BCH**) in a cross model.

In other words, faced with stimuli such as promotions or changes in price some consumers are better at controlling how much and what they spend on versus others. This variation across customers, we suggest, should play a role in cross-category purchases. Customers may label a group of products to be jointly needed to justify buying them while others may label them as not being related purchases. Those who exhibit tighter control may be more inclined to or adept at decoupling products while those who have less control may have more difficulty in decoupling products and thus may buy them even when they are not promoted or when budgets are tight. We argue that this ability to exhibit budget control is likely to be a consumer characteristic and be an influencer in consumer decision making in cross-category purchase. The BCH factor is expected to have a moderating effect in cross category purchase decision making. Suppose we look at the cross purchase between Cake Mix and Frosting. When Cake Mix price drops, we assume consumers buy more Cake Mix and at the same time buy more Frosting because these two are used together to make cake. But this assumption is not always valid if we consider consumers' mental budgeting control habit. For consumers of mild or low budgeting control, buying more of both can be justified by the consumption complementarity.

But for consumers of strong budgeting control, buying more of both is not a good choice because of the concern of over-spending. Not addressing this factor in cross model can result in convoluted outcomes because the variation of BCH among consumers leads to variation of purchase decisions. Habits are the result of one's personal history of behavior. Thus habits are unique and idiosyncratic (Danner et al., 2011). This paper quantifies BCH in a scale. The left end is the **frugal**, the consumers engaging little mental budgeting control in shopping; the right end is **prodigal**, the ones being used to intensive mental budgeting control. Most consumers should have a score in between the frugal and prodigal. This BCH score reflects a common character of consumers. We all have met people who count every penny in shopping and try to avoid overspending by any means, and other people who are easily get attracted by promotions, make impulsive purchases and have very little concern for overspending.

Impulsive buying literature is also highly relevant in studying consumers' mental budgeting control habit. Impulsive buying is a kind of behavior that consumers make unplanned purchases. Majority of the literature are devoted to examining the external and internal stimuli such as emotions (Weinberg and Gottwald, 1982) and social norms (Rook and Fisher, 1995). Mental budgeting control habit is a personal trait that guides how much mind power a consumer usually uses in matching the spending and budget. Apparently, level of mental budgeting control should negatively relate to frequency of impulsive buying. Consumers of low mental budgeting control can appear strong in impulsive buying intension because the 2 factors both reflect less concern for overspending. Many other factors are relevant to mental budgeting control habit such as the durable vs. non-durable goods. This study focuses on grocery shopping and leaves the durable goods factor to future studies. Figure 1 shows a theoretical construct of mental budgeting control habit in cross category purchase model. We argue that the mental budgeting control habit have a moderating effect in cross category purchase decision making.

Figure 1: Moderating Effect of Mental Budgeting Control Habit in Cross Model



The base model is a typical cross category model that estimates price effects and cross price effects. The moderating effect model is derived from the base model by adding the control habit moderator to price and cross effects. It is easy to justify the moderator construct over alternative constructs. As discussed earlier, stronger mental budgeting control can imply less cross purchases because cross purchases usually lead to over spending. A moderating effect emerges from the fact that the price and cross price effects are dependent on consumers mental budgeting control habit. This study has several contributions to multiple category purchase research. First, we extend the cross category modeling technique by incorporating mental budgeting control habit factor. It helps managers better understand consumers' cross purchase behavior. Since the cross purchase models are capable in analyzing complex data structure, this research contributes to big data and business analytics methodology. The results of this paper show that by incorporating the BCH factor in a cross model we can significantly improve model fit and prediction accuracy, and the cross-model results can be more reasonably explained. As a by-product of this research, we discuss the basket root items phenomenon. We find that combining the control habit factor and basket root items perspective can better explain the dynamics of consumers' decision making in cross category purchase.

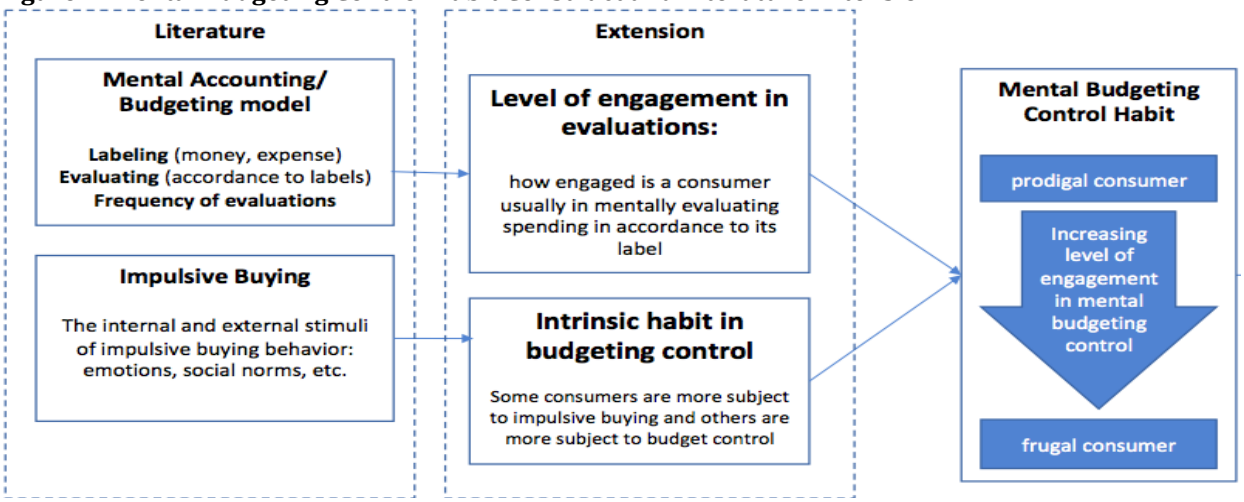
2. Literature Review

Thaler (1985) is the seminal paper of mental accounting research. Behavioral economists suggest investigating factors above and beyond the economic rationality and utility. For example, for same amount of money, people tend to value the hardly earned cash more than the easy money from lottery or casino wins. Heath and Soll (1996) articulate that consumers label expendable money into categories such as entertainment fund or household expense. They also track expenditures against the money labels. Thaler (1999) generalizes the mental accounting activities as labeling activities, evaluation of outcomes, and frequency of evaluations. Consumers spend different amount of time on each of these activities to meet their decision-making needs. The current study is an effort to examine the evaluation and frequency of evaluations. The evaluations of budget control outcome have a strong impact on consumers' decision making. As shown in Langer and Weber (2001), manipulating the form of participants' evaluations in a lottery purchase can lead to significant change of consumers' purchasing behavior. In addition to the evaluation form, we argue that the intensity of evaluation is another important factor that can influence consumers' decision making. Some consumers may have a habit to use less mind power to evaluate their mental budgeting control. This type of consumer does not concern for over spending and are often to mentally search for ways to justify their floppy budgeting control. Cheema and Soman (2006) find that consumers can re-label an expense from one to another spending category in order to justify an over-spending. We believe that consumers have different habits in mental budgeting control.

In the current study, we try to capture this variable by each individual consumer's spending history data. Stilley et al. (2010) also provides evidence for varying mental budgeting control habit among consumers. They found that consumers set flexible money in groceries shopping. And we believe that the balance of flexible money account is very different in consumers. This variable can guide part of consumers' decision in spending. Mental budgeting is related to personality traits such as self-control (Kivetz and Simonson, 2002) (Krishnamurthy and Prokopec, 2009). As to future research opportunities, we call for research in consumer's spending structure reconfiguration behavior. In both online and offline shopping, consumers are used to buy multiple items in one shopping trip. Understanding why and how consumers reconfigure their spending structure can have huge impacts on marketing management. The current study contends that consumers are heterogeneous in the level of engagement in mental budgeting control and the level of engagement is a stable personality trait that has an influence on purchase decision making in each shopping trip the consumer made. Because the habit is a stable personality character, it can be captured as a general variable. The current paper is also inspired by Homburg et al. (2010), which studied the moderating effect of mental budgeting on the relationship between price and future purchase decisions. The current study takes it further and argues that (1) consumers have formed a mental budgeting control habit for shopping and (2) the habit score has a significant power in multi-category cross purchases modeling. Mental budgeting control habit is highly relevant to impulsive buying behavior.

Impulsive buying is a behavior of making unplanned purchase. This behavior can be attributed to internal factors such as a result shopper's emotion (Weinberg and Gottwald, 1982) and psychological mechanism (Strack and Deutsch, 2006). The choices of product categories and specific time period should be carefully examined. The set of categories should come from same spending label such as grocery, appliance or entertainment. As mental budgeting theory suggested, consumers label funds and expenditure into categories (Heath and Soll, 1996). Thus, it is very possibly that consumers' spending is relatively consistent at the labeled category level. External factors are also examined such as social norms (Rook and Fisher, 1995) and culture (Kacen and Lee, 2002). In addition to these known factors, we argue that consumers have a personality trait that sets a base tone for consumer's responsiveness to stimuli of impulsive buying. Prodigal consumers are supposed to be more subject to impulsive buying because they are less concerned for overspending. Studies are accumulating in examining personal traits for impulsive buying behavior. We argue that consumers budgeting control habit is most possibly consistent when purchase the same product categories. The choice of specific time period should be long enough to ensure a general trait being extracted; but at same time not too long to mess up habit changes. Strack and Deutsch (2006) investigate psychological mechanism of impulsive buying. Vohs and Faber (2007) study the influence of self-regulatory resource availability in impulsive buying behavior. Figure 2 shows the two schools of literature where derives the mental budgeting control habit construct.

Figure 2: Mental Budgeting Control Habit Construct and Literature Extension

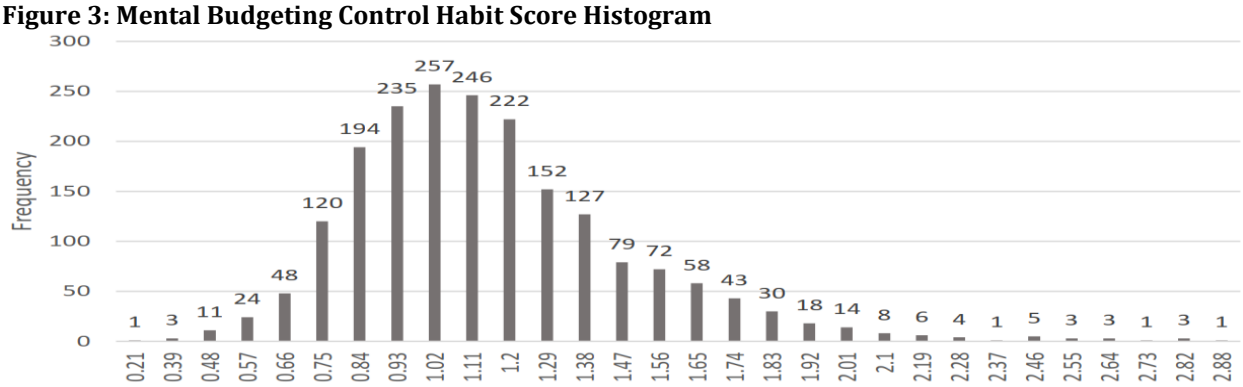


3. Method

This section first establishes the mental budgeting control variable, and then proposes two comparable models that can be used to show the impact of this factor on improving model fit and prediction performance in cross purchases context. The two models, base cross model and budgeting control habit model, are derived from multivariate probit (MVP) model (Manchanda et al., 1999)(Duvvuri et al., 2007). The former model does not include the mental budgeting control factor and the latter model includes it as a moderating factor.

Budgeting Control Habit (BCH) Variable: Habits are the result of one's personal history of behavior (Danner et al., 2011). A habit can be captured by data of personal behavioral history. Budgeting control habit thus is embedded in shopping history data. The BCH Score is calculated as the standard deviation of a consumer's spending on a related set of product categories over a specific time period. The current study uses grocery spending category and 2 years of shopping history data to calculate the budgeting control habit score. Figure 3 shows the histogram of extracted score variable.

Figure 3: Mental Budgeting Control Habit Score Histogram



MVP and Latent Utility Model: The MVP model is derived from and the latent utility model or random utility model (McFadden 1973; 1980; 1986) (Walker and Ben-akiva 2002). Here we briefly explain latent utility model. In a shopping trip t, consumer h 's purchase choice over k categories can be expressed by a vector $y_{th} = \{y_1, y_2, \dots, y_k\}_{th}$. The element y_{k} is a binary variable and $y_{\mathrm{k}} = 1$ indicates that the category k is purchased (or not purchased for $y_{\mathrm{k}} = 0$). The value of y_{kth} is modeled with a latent utility variable (not observed) u_{kth} as:

$$y_{kth} = \begin{cases} 0\ (not\ purchase), & u_{kth} \leq 0 \\ 1\ (purchase), & u_{kth} > 0 \end{cases} \tag{1}$$

The latent utilities vector is further regressed on dependent variables as:

$$\boldsymbol{u}_{th} = X_{th}\boldsymbol{\beta}_h + \boldsymbol{\varepsilon}_{th} \quad (2)$$
$$\boldsymbol{\varepsilon}_{th} \sim MVN(\mathbf{0}, \Sigma)$$

Dependent variable (DV) $\boldsymbol{u}_{th}$ is a k-dimesion vector for k categories, $\boldsymbol{u}_{th} = \{u_{1th}, u_{2th}, \dots u_{kth}\}$. The $X_{th}$is the matrix of independent variable. The matrix $\boldsymbol{\beta}$ are the effect parameters. Since $\boldsymbol{u}$ is inferred from the observed variable $\boldsymbol{y}$, the model allows all positive value of $\boldsymbol{u}$ when corresponding category is purchased ($y = 1$), and allows all negative values when not purchased ($y = 0$). Given an observation (X, y), the parameters $(\boldsymbol{\beta}_h, \Sigma)$ cannot be uniquely identified because $\boldsymbol{u}$ is free to change in the range (0, +Inf) or (-Inf, 0). To solve this problem, this study follows the practice of existing literature and restricts the error covariance matrix, Σ, to a correlation matrix (Manchanda et al., 1999, Rossi et al., 2005, Duvvuri et al., 2007).

Base Cross Model: Our base cross model uses the MVP model shown above. We include price and cross price in the independent variables. The key part of the model is:

$$\boldsymbol{u}_{th} = \boldsymbol{price}_{th}\boldsymbol{\beta}_h + \boldsymbol{\varepsilon}_{th} \quad (3)$$

The $\boldsymbol{price}_{th}$ is a $k * k$ matrix. Each row contains the k categories prices and there are k rows corresponding to $\boldsymbol{u}_{th}$ vector. The $\boldsymbol{\beta}_h$is a k*k matrix containing own price effect and cross price effect for the k categories. The detailed specification in a matrix form is:

$$\begin{bmatrix} u_{1th} \\ u_{2th} \\ \dots \\ u_{kth} \end{bmatrix} = \begin{bmatrix} price_{1th} * \boldsymbol{\beta_{11h}}, & price_{2th} * \beta_{12h}, \dots, price_{kth} * \beta_{1kh} \\ price_{1th} * \beta_{21h}, & price_{2th} * \boldsymbol{\beta_{22h}}, \dots, price_{kth} * \beta_{2kh} \\ & \dots \\ price_{1th} * \beta_{k1h}, & price_{2th} * \beta_{k2h}, \dots, price_{kth} * \boldsymbol{\beta_{kkh}} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1th} \\ \varepsilon_{2th} \\ \dots \\ \varepsilon_{kth} \end{bmatrix} \quad (4)$$

The bolded betas, $\boldsymbol{\beta_{11h}} \sim \boldsymbol{\beta_{kkh}}$, are own price effects and other betas are cross effects.

It is well known that the relation between price and utility is negative. That translates into expected negative beta values for $\boldsymbol{\beta_{11h}} \sim \boldsymbol{\beta_{kkh}}$. Unlike own price effect, cross price effect does not have an obvious direction. Some people assume positive correlations of demands between complementary goods such as Cake Mix and Frosting, the mental budgeting factor makes consumers' actual behavior unpredictable. For weakly complementary goods categories such as Bacon and Eggs, it is even harder to make solid assumptions about their correction direction. The direction of cross effects can depend on many factors. But the mental budgeting control habit is expected to have general moderating effect on price and cross price effect.

Budgeting Control Habit Model: We create the mental budgeting control habit model by adding moderating terms to the base cross model. The key part of the model is:

$$\boldsymbol{u}_{th} = \boldsymbol{price}_{th}\boldsymbol{\beta}_h + \boldsymbol{price}_{th}\boldsymbol{ControlHabitScore}_h\boldsymbol{\beta'}_h + \boldsymbol{\varepsilon}_{th} \quad (5)$$

The 2nd term of right hand side of the equation is the moderating term of the mental budgeting control habit factor. The coefficient vector, $\boldsymbol{\beta'}_h$, will capture the moderating effect of the control habit variable on the price and cross price effect (refer to Baron and Kenny (1986) for moderating effect). Significant $\boldsymbol{\beta'}_h$ indicate significant moderating effects. By comparing the model fit score and prediction accuracy between the base model and the budgeting control habit model, we can validate the importance of including the mental budgeting control habit factor in cross models. For the moderating effect direction, we expect that budgeting control habit score will enhance price and cross price effect. Specifically, the price and cross price effect will be strengthened at the frugal consumer side (low control habit); but the cross price effect will be weakened at the prodigal consumer side (high control habit).

4. Results

Model Estimation: Gibbs sampling method is used to estimate the base and budgeting control habit model (Rossi et al., 2005, page 63). The likelihood calculation from the Gibbs output is not straight forward. We use Chib (1995) method and calculate the log-likelihood score for the 2 models. The models are implemented by customizing an open source R package bayesm (Rossi, 2012). R is an open source data analysis tool (R Core

Team 2014). The program customization is based on the rmvpGibbs function in the bayesm package and refers to the book Rossi et al. (2005) and the work of Allenby et al. (2005) and Duvvuri et al. (2007).

Data: This study uses a dataset extracted from the Nielsen Consumer Panel and Scanner database and focuses on archival data of year 2010 and 11 US cities. Information of availability and access to the dataset is available at http://research.chicagobooth.edu/nielsen. We include 4 categories Cake mix, Frosting, Detergent and Softener. These categories are commonly used in cross effect research (Manchanda et al., 1999, Duvvuri et al., 2007). We first retain the households who made at least 2 purchases in any of the 4 categories in year 2010. To reduce the difficulty of model estimation caused by large dataset, we further retain only the households for 11 cities as shown in the following table. We try to make the cities geographically spread across US (by DMA code) to minimize the location bias. Trips and purchases are then extracted corresponding to these households. The final dataset information is shown in Table 1. The dataset is split into 85% and 15% for model fitting and testing. Table 2 shows purchases and joint purchases statistics.

Table 1: Dataset Information

Period: **Year 2010**			
Cities (by DMA Area code) New York, Chicago, St Louis, Dallas, Los Angeles, Boston, Houston, San Francisco, Seattle, Atlanta, Minneapolis			
Trip Information			
Categories	Valid Trips	Valid Households	Trips/Household
Cake mix, Frosting, Detergent, Softener	21,606	1,705	12.67

Table 2: Purchases and Joint Purchases

	Cake Mix	**Frosting**	**Detergent**	**Softener**
Cake mix	2451	963	176	56
Frosting		1685	118	45
Detergent			3147	337
Softener				1109

*The counts of single category purchases include the joint purchases.

Model Fit and Prediction Hit Rate: Prediction hit rate and model fit likelihood scores are shown in Table 3. The log likelihood score is -142,951.4 for the control habit model and -145,023.2 for the base cross model. The higher likelihood score indicates that the control habit model has a better data-model fit. The control habit model achieved 0.821 prediction hit rate comparing with 0.819 hit rate of the base model. The results provide strong evidence for the non-ignorable influence of budgeting control habit factor in multi-category cross purchase.

Table 3: Prediction and Log-Likelihood of Base and Mental Budgeting Control Habit Model

	Prediction Hit Rate	**Log-Likelihood Score**
Base Cross Model	0.819	-145,023.2
Budgeting Control Habit Cross Model	0.821	-142,951.4

The estimated model parameters are shown in Table 4. The parameters of base model are shown in the lower section shaded. The control habit model parameters are shown in the above section non-shaded.

Table 4: Spending Habit Cross Model and Base Cross Model parameters

	Ui	b0	Price Effect				Budgeting Control Habit Score Moderating Effect			
			Ck	Fr	De	Sf	Ck	Fr	De	Sf
Budgeting Control Habit Cross Model	Ck	-1.19 ***	**-19.72 *****	4.34 **	2.32 **	6.60 ***	-5.89 ***	3.64 **	-2.66 **	-
	Fr	-1.08 ***	-12.71 ***	-	-	-	-	-4.86 **	-	3.89 *
	De	-0.57 ***	-7.35 ***	-	**2.37 *****	-	9.50 ***	-3.15 **	-6.61 ***	-
	Sf	-	-9.17 ***	-	-	-	8.05 ***	-	-	-7.58 ***
Base Cross Model	Ck	-0.82 ***	**-16.79 *****	5.39 ***	-	6.13 ***				
	Fr	-0.99 ***	-9.96 ***	**-2.96 *****	-1.57 **	7.00 ***				
	De	-0.22 ***	1.07 ***	-1.69 ***	**-1.74 *****	1.00 ***				
	Sf	-	-	-3.86 ***	-	**-10.59 *****				

- **Ui**: purchase utility, **b0**: intersect, **Ck**: Cake Mix, **Fr**: Frosting, **De**: Detergent, **Sf**: Softener,
- The non-significant parameters are not shown.
- * Indicate significance at alpha = 0.1 level, ** 0.05 and *** 0.01 level.
- Bold fonts are own price effects. Others are cross effect or spending habit moderating effect.

The base model own price effects are in bold fonts in the shaded section. A face validity of the model fit is achieved because the own price effects are all negative. It is a common principle that price drop is associated with increase utility of purchases. In the following discussions, we will focus on understanding the cross effects.

Base Cross Model Parameters: Cake Mix Price Effect column has 3 significant effects as -16.79 on itself, -9.96 on Frosting and 1.07 on Detergent. It suggests that Cake Mix price drop can lead to purchase of (1) more Cake Mix, (2) more frosting and (3) less Detergent. The effect size rank is Cake Mix strongest, frosting medium and Detergent weak. The Frosting price drop has influence on all the 4 categories. But the effects on Cake Mix and Softener are stronger than on frosting itself. But frosting effect on Cake Mix is positive, which means a price drop of Frosting can indicate less Cake Mix purchase. This can be explained by the spending habit factor and consumers spending structure reconfiguration behavior (See Discussion section). It is also important to compare the effects horizontally. Cake Mix's utility is dominated by its own price, -16.79. The price of Frosting and Softener also has impacts as 5.39 and 6.13. The positive scores indicate that price drop leads to less purchase. But these effects are 3 times less influential than the Cake Mix's own price effect. For Frosting, all cross price effects are significant. But the effects from Cake Mix, -9.96, and Softener, 7.00, are much stronger than Frosting's own effect, -2.96. This is surprising because consumers are much more responsive to cross price effects than to own price effect. Also, against intuition is that Softener price drop leads to less purchase of Frosting. Again, we will provide our explanation in the discussion section.

BCH Cross Model Parameters: We first compare the Budgeting Control Habit model estimation with the base model estimation. First observation is that Frosting and Softener's own price effect become insignificant in the BCH model. Instead, the BCH moderating effects are significant on these price effects. At price drop of these categories, consumers' purchase decision depends on consumers' budgeting control habit score. If the control habit score is bigger than 1, then the price drop effect is enhanced and vice versa. In an extreme case that control habit score is close to 0, price effect will become very light and close to none. Cake Mix and Detergent's own price effects remain significant and the BCH moderating effects are significant as well. Consumers are responsive to price drop independently and BCH score will enhance or weaken the responsiveness respectively. For Cake Mix, the own price effect and moderating effect are -19.72 and -5.89. Consumers' response to price drop is mainly determined by its own price and the influence from BCH factor is relatively small. For Detergent, the own price effect and moderating effect are 2.37 and -6.61. Consumers'

response to price varies and highly depends on BCH score. Solving the equation $2.37 * price + (-6.61 * price * BCH) = 0$ results in $BCH \approx 0.36$. This is the point where the price effect and moderating effect cancel out each other. Consumers with BCH score 0.36 are unpredictable for their response to price drop consumer with BCH score bigger than 0.36 are possible to purchase more at price drop and consumers with BCH less than 0.36 are possible to purchase less.

Spending Reconfiguration Behavior: We contend that consumers mentally reconfigure their basket items to achieve many goals including mental budgeting control and consumption utility maximization. Considering budgeting control habit in cross effect research, frugal consumers may have high priority of mental budgeting control over the utility of products complementary consumption; while prodigal consumers may have opposite priority. The different priority leads to consumers adjusting purchase categories and quantity. The linkage from consumers' budgeting control habit to different behaviors of basket item reconfiguration is one example of investigating spending reconfiguration behavior. We call for more research in investigating spending reconfiguration behavior. It is very common that consumers purchase multiple items in one shopping trip, online or in store. Understanding why, when and how consumers reconfigure basket items can help marketers better serve consumers.

Discussion

This paper is the first study examining consumer's mental budgeting control habit factor in cross models. Comparing with earlier studies, this paper provides a novel method of incorporating consumers' budget control factor.

Budgeting Control Habit Moderating Effects: The results of some cross effects could be confusing if not explained in the budgeting control habit structure. For example, the base model Frosting column shows significant price effects as 5.39 on Cake Mix, -2.96 on Frosting, itself -1.69 on Detergents and -3.86 on Softeners. The positive effect on Cake Mix indicates that a price drop of Frosting lead to less Cake Mix purchase. If we look at it from the product complementary/substitution perspective, it is hard to understand this fact. Let us consider consumers' mental budgeting control habit. Assume that a consumer usually only buy cake mix, say 10 units. Seeing a price drop of Frosting, they decide to buy Frosting, as well. But Cake Mix and Frosting have an optimal amount ration to be consumed together, say [10, 10]. This situation forces the consumer to buy 10 Frosting to match usual Cake Mix purchase. Unfortunately, it will highly possibly lead to an overspending. As a result, the consumer purchases [5, 5] to avoid over spending but also maintain an optimal combination.

In this scenario, Frosting price drop leads to purchase pattern from [10, 0] to [5, 5], an increase in Frosting purchase and decrease in Cake Mix. This speculated decision making pattern is very possible for frugal consumers who are habitually engaged in high mental budgeting control at shopping. The influence of moderating effects becomes even more obvious in the budgeting control model, which explicitly includes the BCH score. The model estimation shows that Frosting's own price effect is dependent on BCH factor. The combining effect from price and control habit is -4.68. Since the BCH score value is always positive (See section 3.4), the combination effect thus is negative. But its effect size totally depends on the BCH score. Frugal consumers (BCH score at 0 side) will not response to price drop at all for Frosting, but prodigal consumers (BCH score at 3 side) will response to price drop 3 times stronger than will average consumers (BCH score at 1).

Root Basket Items: The BCH model parameter results clearly show that Cake Mix and Detergent are root categories in consumer basket because their independent own price effects are significant. Frosting and Softener are add-on categories that their independent own price effects disappear when the BCH moderator is added to the model. Importantly for add-on categories, consumers' responsiveness to price drop totally depend on the consumers' BCH score. This is strong evidence that consumers divide basket items into root categories and add-on categories. Combining the discussions in 6.1 and 6.2, we must conclude that the common sense of price drop boost purchase is only true for the root category items. Price drop of add-on items may trigger consumer's reconfiguration of their basket items but not necessarily lead to more purchases.

5. Conclusion and Recommendations

Consumers' mental budgeting control habit is quantified using spending history. This paper shows strong evidence that the BCH score can reflect the habit in the frugal-prodigal scale. Store managers can utilize consumer's purchase history data to calculate the BCH score for each consumer, and then apply this score in consumer classifications, which is the fundamental technique of many marketing applications such as email promotion and personalization. The proposed BCH cross category model can better forecast demands. Because cross models incorporate multiple categories simultaneously in forecasting, it provides a more accurate forecasting than single category models. Both physical and online stores should utilize the BCH cross model in demand forecasting. Managers also can utilize the model to find out the root vs. add-on items in cross purchase context. As discussed in 5.3, promotions are more effective when used on root basket items than on add-on items. Identifying root basket items in cross purchase context can help reduce promotion cost by focusing on the more effective promotions. This paper also shows that consumers engage in basket items reconfiguration to meet budgeting goal. Managers, especially online store managers, can offer suggestions for optimal configuration according to consumers' BCH score. Frugal side consumers prefer savings and monetary values; while prodigal side consumers tend to like more the symbolic, informatics and novelty values. These finds can be applied in recommender system research and applications, which have been a popular topic in e-commerce development.

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Affecting Factors on Accountability of Village Fund Allocation Management in Bogor District

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Abstract: This research aims to find out factors on the accountability of village fund allocation management in Bogor district. Population in this research was village heads and village secretaries in Bogor district. The hypotheses were tested using data surveys from 77 respondents. The analysis technique used multiple linear regression. The findings from this research indicated that the competence of village officials positively significant on the accountability of village fund management. Whereas, society participation and supervisors had no relationship with accountability in the management of village fund allocations. This research contributed to the use of village fund allocations in the Indonesian village government. The further research should the interview method to dig deeper into the management of village funds. In addition, further research is expected to expand research to not be only focused on villages in Bogor District.

Keywords: *Village official competence, Society participation, Supervision, Accountability of village fund allocation management.*

1. Introduction

Village is an area inhabited by group of people who have government system according to statutory provisions in force. On January 15th, 2014 the government enacted Law (UU) No. 6 Year 2014 concerning villages. It states that villages has their rights in regulating and managing the interests of local communities and playing a role in realizing the ideals of independence. The granting of broad, real and responsible authority in the laws and regulations is the planning of the democratization process in the implementation of village autonomy to assist the central government in conducting government in villages with a heavy emphasis on district/city governments. The factual empirical situation is a balance of the implementation of village autonomy based on Law (UU) Number 5 Year 1974 and the previous regulations. Furthermore, (Permendagri No. 20 2018) states that village fund management conduced by village officials is expected to be able to realize community development and increase village development.

The village budget needs to be managed properly so that there is no authority. The obstacles that arise in the accountability of village fund management from previous research, such as Aziz (2016) are the lack of awareness of village community participation and the lack of human resource capacity in government. In addition, success in village development is affected by several factors, which are: society participation, competence of village officials and supervision (Nurjaman, 2015). Village financial management is all activities which include planning, implementing, administering the issuance, and accountability for village finances. Village finance is managed based on the principles of transparency, accountability, participation and it is carried out in an orderly and budgetary discipline. In 2015 to September 2018 though supervision result of Indonesia Corruption Watch (ICW) in Indonesia in Table 1.

Table 1: Corruption Cases of Village Funds

Cases	Suspected	Loss
181	184	40,600,000,000

Based on the Table 1 it show that there was an increase in corruption cases of village funds in Indonesia these results indicate that the country suffered a loss of Rp 40,600,000,000 and there were also 184 suspected corruption cases out of 181 cases in Indonesia. This corruption was carried out from the budget planning process to the evaluation stage. ICW considered that the case of corruption of village funds occurred due to various factors, such as the lack of competence of village officials, lack of community participation and also lack of supervision (www.kompas.com). The research conducted by Thomas (2013) showed that the lack of competence of village officials is an obstacle in managing village funds. Furthermore, Cheng, Engstrom and Kattelus, (2002) in Yamin and Ishak (2018) mentioned that the competencies possessed by government officials can affect the accountability of village governments. Previous researches found that the competence of village officials had a significant.

Positive effect on the accountability of village fund management (Atmadja & Saputra, 2018; Budiana, Said & Nursini, 2019; Dewi & Gayatri, 2019; Santoso, 2016; Putra & Rasmini, 2019). In addition, the research found that it had no effect as the research conducted by Widyatama, Novita and Diarespati (2017). Community participation can be one of the factors which determine the effectiveness of village fund management. Research by Naimah (2017), Putra and Rasmini (2019), Umaira and Adnan, (2019) found an effect between community participation toward the accountability of village fund management. Other factors which can determine the effectiveness of village fund allocation is supervision. Researched by Umaira and Adnan (2019), Atmadja and Saputra (2018), Munti and Fahlevi (2017) found a positive and significant relation between supervision of accountability in village fund allocation management. Based on the explanation above, the purpose of this research is to examine and analyze whether the competence of village officials, community participation and supervision affect the accountability of village fund allocation management.

2. Theoretical Perspective

Agency Theory: This research used theory agency. The theory explains the relation between management of companies which have the authority to manage the resources of the company that is being run. According to Pepper and Gore (2015), it states that agency theory focuses on the cost of conflicts which occur toward the perpetrators of agent funds. Meanwhile, according to Homayoun (2015), it also explains agency theory also between agents and parties who work together to achieve goals in the division of labor. Related to the accountability of village funds, the theory of money had been used by previous researches, such as Dewi and Gayatri (2019) and Faristina (2011). Agency theory based on (Panda & Lepsa, 2017) is focused on separating power between principals and agents and finding solutions to problems which arise in an organization. Research conducted by Dewi and Gayatri (2019) used agency theory in recognizing the differences between principal and agent. Thus, the differences can be minimized through adequate competence of village officials, leadership to the village and community participation. The results of this research are useful for the input of village governments in the Abang District in an effort to realize accountability in village fund management.

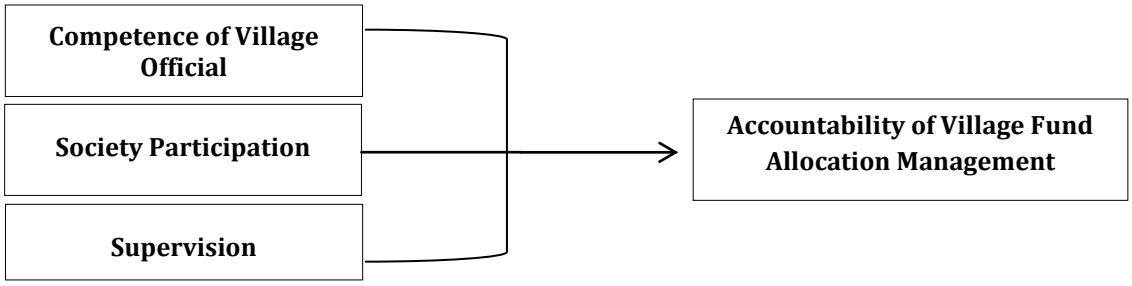
The Effect of Village Official Competence on Accountability of Village Fund Allocation Management: The gab between government and society is used by agency theory. Agencies must be able to be transparent and willing to be monitored by the community in relation to what is conducted. Village officials must have the ability to manage the existing budget. Village officials have great competence. Thus, it will be very supportive to know the regulations related to village fund management. Previous research found that village apparatus competence affects the accountability of village fund allocation management (Aziiz & Prastiti, 2019; Dewi & Gayatri, 2019; Indrajaya, 2017: Mada, et al., 2017: Tarjo, 2019; Zirman, Edvan & Rozi, 2010). Based on the arguments and descriptions above, a hypothesis can be formulated as follow:
H1: Competence of village officials significantly influences the accountability of village fund allocation management.

The Effect of Society Participation on Accountability of Village Fund Allocation Management: In managing village fund, society plays the important role to supervise the activities of village government. This is based on agency theory which explains that principals and agents have differences and interests. Agents will not get a guarantee that they always conduct in accordance with principal interests. The statement is also expected that the community can supervise directly from the planning stage to the management stage. The research of Dewi and Gayatri (2019) Umaira and Adnan (2019) examined community participation in accountability for managing village fund allocations. The results of previous research suggested that community participation has a significant effect on accountability in managing village fund allocations. Based on the description above, the hypothesis can be formulated as follow:
H2: Society participation significantly influences the accountability of village fund allocation management.

The Effect of Supervision on Accountability of Village Fund Allocation Management: Siagian (2002) states that supervision is an organization activity conducted from the observation process until the implementation stage to ensure. All tasks is carried out according to plan. The government supervision can improve financial accountability by evaluating and improving internal control, risk management and governance processes "(Aikins, 2011). Supervision is carried out starting from the planning stage to the accountability stage carried out to achieve the principle of accountability in the management of village funds

in order to avoid irregularities. Thus, management is carried out effectively and efficiently. Based on the arguments above, it can be concluded that supervision will increase the accountability of village fund management. Related to supervision, previous researched of Umaira and Adnan (2019), Munti and Fahlevi (2017) Atmadja and Saputra (2018) found that supervision affect the accountability of village fund allocation management. Based on the description above, the hypothesis can be formulated as follow:
H3: Supervision has a significant influences the accountability of village fund allocation management.

Figure 1: Research Framework



3. Research Method

Analysis technique used in this research was multiple linear regressions. Multiple linear regression is an analysis used to partially examine the competency variables of village officials, community participation and oversight of the accountability for managing village fund allocations. This research used a tool to test and process data used SPSS software version 25. The sample consisted of population, consisting of the number of members selected from unlimited. This research samples were 77 villages with a total sample of 77 x 2 = 154 total sample. Sampling used cluster sampling method. Variables in this study are accountability, competence, community participation and supervision. Accountability is the rules relating to transparency and accountability and participation in the management of village fund allocations. Accountability of village fund management was measured using two dimensions consisting of: honesty and legal process.

Indicators were adopted from Tarjo's study (2019) with modifications. Furthermore, competence is a good understanding in conducting work. It is about having skill and attitude in implementing work. Competence uses two dimensions which are the ability of knowledge and attitude. The indicator adopts research from Tarjo (2019) with some modifications. Community participation is a measuring tool for obtaining information about needs, attitudes in development activities through the preparation and planning of the general public. Community participation in this research was measured using questions adopted from Haller 1984, and Sujarweni (2015). Supervision is a process of a thorough examination of a government activity with the aim of such activities being carried out in accordance with applicable laws. Supervision is measured by adopting an Anugriani (2014) study with modifications.

4. Results and Discussion

Based on screening process of respondent based on determined before, it used cluster sampling. There were 7 sub-districts in Bogor district with a total sample of 86 questionnaires which will be used in this research from a total of 154 questionnaires distributed. Samples used in this research were 86 questionnaires with 2 respondents and questionnaires issued because outlier indicated 9 questionnaires. The research had the gender category of the respondent. There were 79 men respondents who filled in with 91.9% and 7 women respondents who filled out the questionnaire with a percentage of 8.1%. These results indicated that more village heads and village secretaries were respondents in this research. There were respondents who answered questionnaires with a high school education level of 71 respondents with a percentage of 82.6% whose level of education was diploma (D3) of 6 respondents with a percentage of 7.0% of respondents.

Whose final education level was S1 as many as 9 respondents with a percentage of 10.5% and S2 as many as 0 respondents with a percentage of 0%, the results showed that there were more village heads and village secretaries with high school education as respondents in Bogor District. The research had a long-standing

category of Village Head and Village Secretary. There were 30 respondents with a term of office of 1 year with a percentage of 34.9%, 15 respondents with a term of office of 2 years 17.4% with a percentage of 17.4%, and 5 respondents with a term of office of 3-4 years with a percentage of 5.8%, 36 respondents with 5 years of service with 41.9% percentage. This result showed that there were more village heads and village secretaries who had served five years long.

Table 2: The Summary of Reliability Test

Variable	Question Number	Cronbach's Alpha
Accountability of Village Fund Allocation Management	6	0.648
The competence of village officials	6	0.705
Society participation	4	0.760
Supervision	6	0.721

Validity test of research variable used pearson correlation. Reliability tests were carried out to measure the internal consistency of items on the instrument. Reliability is the extent to which measurements are reliable or consistent when measured at different time points (Sekaran & Bougie, 2013). Generally, the Cronbach alpha coefficient is used among researchers to test the consistency between research instrument items. In this view, the Cronbach alpha coefficient was also used in this study to examine the internal consistency of items on the research instrument. A higher Cronbach alpha value is usually needed for a group of items which measure the same variable. Most researches recommend that Cronbach's alpha should be greater or equal to 0.70, but values of 0.60 to 0.70 are also considered acceptable (Sekaran & Bougie 2013) Table 2 presents a summary of the reliability test for all variables from 0.648 to 0.760. It has exceeded the acceptable minimum threshold of 0.6 and as such, the steps are reliable.

Table 3: Results of Determination Coefficient Test R^2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,311[a]	,097	,060	2,28201

It is known the determination coefficient showed by Adjusted Rsquare value of 0.060 or 6%. This means that, 6% of the accountability for managing village fund allocations can be explained by the competence of village officials, society participation and supervision. While the remaining 94.6% accountability for managing village fund allocations can be explained by other variables not used in this research such as village head leadership, technology utilization, organizational commitment and others.

Table 4: Results of t Statistic Test

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	19,121	5,440		3,515	,001
	KPD	,388	,164	,278	2,359	,021
	PM	-,046	,118	-,041	-,391	,697
	P	,220	,125	,199	1,751	,084

The Effect of Village Official Competence on Accountability of Village Fund Allocation Management: The first hypothesis in this research states that the competence of village officials affected the accountability in the management of village fund allocation. After conducting the t statistical test, it was obtained a t-count of 2.359 with a table of 1.993. Thus, tcount> ttable (2.359> 1.993) with a significance level of less than 0.05 (0.021 <0.05). Thus, Ha was accepted. It can be concluded that the competence of the large apparatus has a significant effect on the accountability of village fund allocation management. These results illustrated that the village head must be able to compile and implement the specified village budget funds, master village financial management, the level of education influences the implementation of tasks, education owned by village human resources and village financial management. Thus, it will be able to increase accountability in the management of village fund allocation. In line with previous research conducted in villages of Abang Sub-district, it stated that the competence of village officials had a positive effect toward accountability in

managing village fund allocations (Dewi, Gayatri 2019). Yamin and Ishak (2018) mentioned that the competencies possessed by government officials could affect the accountability of village governments.

The same thing was also found in Enrekang village conducted by Budiana, Said and Nursini 2019 who found that the competence of village officials had an effect toward the accountability of managing village fund allocations. In line with research by Subroto (2009), it found that the inhibiting factor for managing village fund allocations was the low competence of village government officials. Low competency in human resources and ineffective monitoring and evaluation made a difference in the management of village fund allocations. As a result, management accountability for village fund allocation does not reflect accountable management. This research was also in line Putra and Rasmini (2019), Zirman et al. (2010), Tarjo (2019), it found that the competence of village officials had an effect toward village fund accountability. It was in line with agency theory which explains that there is a relationship between agents and principals to carry out a service in making decisions.

In this case, the central government provides the mandate to manage the allocation of village funds in the village government. In managing village government, it must be based on regulations and regulations stipulated by Law No. 6 Year 2014 concerning villages and Minister of Home Affairs and regulation No. 113 of 2014 concerning financial management of village funds. In the context of Bogor District, the competence of the instructors in managing village allocation funds had good competence. It haf been supported with expertise and skills. Village officials were able to understand the main tasks, planning village financial budgeting and they were able to make village financial reports in accordance with applicable norms or rules. The competence of village officials is an important factor considering competence as an internal factor and becomes an important factor.

The Effect of Society Participation on Accountability of Village Fund Allocation Management: Test toward first hypothesis showed the effect of the variable implementation of government accounting standards on the quality of government financial statement information. After conducting the statistical t test, it was obtained a tcount of -.391 with t-table of 1.992. Thus, tcount <t table (-, 391 <1.993) with a significance level of more than 0.05 (0.697> 0.05). Thus, H0 was accepted. It can be concluded that the independent variable of community participation does not significantly affect the accountability of village fund allocation management. Hopefully, the supervision from a qualified BPD will affect the accountability of village fund allocation management. This research was not in line with research conducted by by Putra and Rasmini (2019) because there was an influence of community participation with accountability in the management of village fund allocation in Badung Regency.

Besides, it was not inline with Umaira and Adnan's research (2019) which examined the accountability of village fund management in Southwest Aceh District was affected by community participation. The findings were not in line with Naimah (2017) which found accountability in the management of village fund allocations that was not affected by community participation. Community participation can lead to good governance because the absence of restrictions between the government and the community can make local officials more responsible (Kim & Schachter, 2013). This research did not support theory which states that development programs that were given power to the community by the government at the community level must be implemented properly. One level of community participation is consultation related to being notified of invitations to give various opinions. Yet, there is no guarantee that the opinion will be considered in decision making.

The Effect of Supervision on Accountability of Village Fund Allocation Management: Test toward second hypothesis showed variable effect of the use of information technology on the quality of information of government financial statements. After conducting the statistical t-test, it was obtained a tcount of 1.751 with a table of 1.993. Thus, the tcount <t table 1.751 <1.993) with a significance level of more than 0.084 (0.084> 0.05), thus, H0 was accepted. It can be concluded that supervision has no significant effect on village fund management accountability. This study in line with Munti and Fahlevi (2017) who supervise BPD are also the opposite of Atmadja and Saputra (2018) and Triyono, Achyani and Arfiansyah, (2019). The results of the research have shown that monitoring supervision affects accountability in the management of village fund

allocations. Supervision quality did not give effect toward village fund allocation management accountability because supervision was better. It did not affect the accountability of village fund allocation management.

The Village Supervisory Agency (VSA) rights are regulated in Permendagri Number 110 Year 2016 including monitoring and evaluating the productivity of village heads; ask for clarification about village governance from the village government. This privilege is supported by a regional regulation on the Village Consultative Body (village council) which gives this council to control and request clarification on village governance from the village government.It means that the qualification of the control function has not yet been reached and it is effective. Supporting factors do not effectively follow the agenda to control results. VSA has a strong protection. Thus, it can conduct well control function and it had a trusted quality supervision. It is because the BPD has good quality in the supervision system for the village program, the village government can carry out the village development program in accordance with the village specific work plan (Village RKP).

5. Conclusion

The aim of this research is to examine and analyze the influence of the competence of village officials, Society participation and supervision of the accountability of village fund allocation management. Based on the findings and research discussion, it can be concluded that the competence of village officials has a significant effect on the accountability of village fund allocation management. This shows that village fund managers continue to be given guidance from the sub-district and district governments on managing village funds continuously. Thus, they can master village financial management well. In addition, participation of society, supervision do not significantly affect the accountability of village fund allocation management. This is generally due to the limited delivery of information by village officials, the lack of socialization to the community. This is because the qualification of the supervisory function has not yet been achieved and it is effective. There is no standard control system from the VSA in controlling the productivity of the village head, and the planning is not sustainable by the VSA. Furthermore, the researcher adds other variables such as the accessibility of financial reports, the quality of supervision by the Village Council, and the financial funding system. Research data collection must be complemented using interview methods to dig deeper into village fund management. Besides, further research is expected to expand research..

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Cash Settled Commodity Option Contracts as an Alternative to Minimum Support Price: A Mechanism to Alleviate Farmer Distress

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Abstract: Cash settled commodity options is a possible alternative to create a mechanism so that minimum support prices work in reality and do not remain a paper exercise. This paper argues that the government should create a commodity options market for all minimum support price (MSP) commodities. Further option contracts should be cash settled. The government should participate by selling put options at or above the minimum support price, so that farmers can exercise the option if they find that market prices are below the minimum support price.

Keywords: *Commodity options, farmers' distress, cash settled options, minimum support price mechanism.*

1. Introduction

Volatility in prices of agriculture commodities in India has been a worrisome problem for crop producers, especially small farmers in India. The problem is of relevance for agro-food producers, not only in India, but in many countries across the world. Volatility in crop prices has led to farmers' distress in India and has become a matter of great concern for Indian policy makers. Agricultural commodity prices are cyclical. High prices in one year lead to higher production the following year which in turn may result in excess of supply over demand and consequently low, un-remunerative price. India has a "minimum support price" policy for the last several decades. The administrative support mechanism underlying the implementation of the MSP policy is supposed to ensure that the government agencies will buy farmers output at a minimum support price if the farmers choose to sell to the government. Minimum Support Price (MSP) is a form of market intervention by the Government of India to insure agricultural producers against any sharp fall in farm prices. Twenty two crops are covered under the MSP policy. The support price is fixed by Government of India in consultation with CACP (Commission for Agriculture Costs and Prices) to protect the producer - farmers - against excessive fall in price during bumper production years (Planning Commission , 2006). Minimum support price mechanism does not work, except in a few major crops like rice and wheat. In case of other commodities there is no effective mechanism for buying the produce by government agencies at the minimum support price (Ahluwalia, 2019). The logistics and the infrastructure required to create an effective mechanism for the government to buy, store and distribute other MSP commodities is a herculean task. Establishing a cash-settled commodity option market could be a solution to the problem.

2. Review of Literature

Cash settled options allow trading of commodities, indexes and other instruments for which delivery is inconvenient or impossible (Cornell, 1997). For many commodities the spot markets are fragmented and derivative markets such as futures and option markets help in price discovery. Some exchanges such as Chicago Mercantile Exchange (CME) have moved futures and option contracts from physical delivery to cash settlements to attract more commercial interest and to reduce price volatility (Chan & Lein, 2003). Cash settlement apart from augmenting price discovery also improves the hedging performance of the derivative contracts (Lein, Cash settlement provisions on futures markets, 1989), (Lein & Tse, Physical delivery versus cash settlement:an empirical study on the feeder cattle contract, 2002), (Lein & Tse, A survey of physical delivery versus cash settlement in futures contracts, 2006). Commodity derivative markets in India have grown by leaps and bounds over the last two decades (Ahuja, 2006), (Guru, 2009), (Masood & Chary, 2016). Further commodity derivative markets have been the mentioned in a number of studies related to risk management in agriculture, and studies related to measures to assist distressed farmers (Planning Commission , 2006), (Reserve Bank of India, 2006), (Ahluwalia, 2019). However, these studies do not see cash settled option derivatives as a solution and prefer to suggest other measures such as insurance, income transfers etc. to overcome farmers' distress. (Karande, 2017).

Recent studies by agricultural experts point out that procurement through the MSP mechanism in India is not a dependable mechanism (Ali, Sidhu, & Vatta, 2012), (Niti Aayog, 2016) (Ahluwalia, 2019). Farmers in India have been facing problems in selling their produce at minimum support prices because of ineffective procurement system (Ahluwalia, 2019), delays in setting up procurement centers, lack of warehousing, and problems created by commission agents who most of the time buy produce at prices below the MSP prices (Vasudeva, 2017). In contrast to the earlier studies which suggest traditional solutions like insurance, improvements in procurement infrastructure, etc. the present paper is the first of its kind to suggest cash-settled options in MSP commodities as a solution.

Cash Settled Options: The Mechanism: One solution to overcoming the problem of lack of efficacy of the minimum support price (MSP) mechanism in many states in India, may be creation of a cash-settled commodity option market for MSP commodities with the government participating as a seller of put options. Further the government as a participant in the option market should also be committed to selling (or writing) puts at a strike price higher or equal to the minimum support price. This will ensure that a farmer who has bought a put (which is a right to sell the commodity in question), at the start of the sowing season and finally decides to exercise the option at the time of harvesting, will get a price which is at least equal to the minimum support price. If the open market price i.e., price at which the open market is willing to buy the farmer's produce, is below the put option strike price (which is the more than or equal to the minimum support price), then the farmer can exercise the option. Cash settlement implies that the amount of money the farmer will get is equal to the difference between the strike price and the open market price. The mechanism ensures that any loss to the farmer by selling the produce in the open market is covered by the money received from the option market through the cash settlement mechanism. However, if the open market price is higher than the option strike price, the farmer has the choice to allow the option contract to expire without exercising it. The loss to the farmer is the premium paid at the time of booking the contract. The government to the extent it is entering the market as a put option seller, can ensure that the premium is low.

Feasibility and Requirements: Commodity futures and options markets are not new to India. Commodity exchanges such as MCX (Multi Commodity Exchange) and NCDEX (National Commodity and Derivatives Exchange) currently trade in futures contracts in several agricultural commodities such as wheat, chana, barley, guar gum, jeera, maize, cotton, cardamom, black pepper, castor seed, crude palm oil, rubber etc. The expertise of MCX and NCDEX can harnessed to introduce cash settled commodity options in minimum support price (MSP) commodities. The following quote from the MCX website sums up the role played by the Multi Commodity Exchange: "With highly fragmented markets and volatile commodity prices, it is a challenge to ensure a 'fair' and 'remunerative' price for the Indian farmer. Keeping these in mind, the government introduced a number of reforms. In all this, the strengthening of existing institutions in spot and derivative trade has become crucial as commodity markets do influence the lives of millions of stakeholders in the country's diverse and large commodity ecosystem" (MCX India, 2019). A key requirement for effective operation of the cash settled option market in any particular commodity is a reference spot price or a reference index. The reference spot price has to be based on an existing spot price in a specific market (or location) and in relation to specified quality, delivery terms and conditions. MCX and NCDEX have expertise in this area which can be harnessed. Government entering the option market as a buyer and/or seller of option contracts is a key requirement for the effective functioning of the option markets in MSP commodities.

Advantages and Benefits of Cash Settled Options Contracts: If a commodity option market uses physical delivery mechanism for contracts which are outstanding at the time of expiry, there are many problematic issues such as quality of the commodity, place of delivery, storage and transportation charges which need to be tackled. Since the commodity option market which is being suggested in this paper is cash settled, problems of physical delivery and storage, differences in grades and quality of the commodity etc. are not issues of concern. Although there will be differences in the quality (and delivery location) of the agricultural commodity produced by the farmer and the quality (and delivery location) of the commodity quoted in the reference spot price, it can be safely assumed that prices of both the products will move in tandem. When a farmer decides to exercise the put option (which he has purchased earlier at the time of sowing) because the current reference spot price is less than his original strike price, the amount of money paid by the exchange will be difference between the original strike price and the current spot price.

Since the original strike price is higher than the current spot price (and the farmer has agreed to sell the commodity, at the original strike price as per the put option), he will get the difference amount which would be enough to cover the losses he would incur by the selling his produce in the nearest commodity market. The government will have to pay the difference amount because it has entered the market as seller of the put option, and therefore it has an obligation to buy the commodity at the original strike price, or pay the difference under the cash settlement process. This effectively implies that the government is ensuring that the farmer gets the "minimum support price".

3. Conclusion and Recommendations

The Government of India has been using the minimum support price mechanism (MSP) for the last several decades to ensure that farmers get remunerative prices for their crops. However, the MSP mechanism in India is faulty and ineffective in 20 of the 22 crops covered under this policy (exceptions are wheat and rice). The resultant effect has been farmers' distress because they are forced to sell their output at prices below their cost of production during bumper crop production years. Cash settled options will ensure that farmers can effectively hedge against the possibility of un-remunerative prices for their output. Cash settled agricultural options markets may also reduce the problem of cyclicality in production of agricultural commodities. Farmer awareness (and education) to use such markets is required. Indian cooperative banks and rural bank branches which are already providing farm loans may be able to help in the process of creating farmer awareness and in educating farmers. Banks may also be able help in providing a mechanism for farmers to book option contracts, and also in the option settlement process. In conclusion, this paper strongly argues for introduction of cash-settled options in all MSP commodities in India, with the government agencies entering the market as writers (sellers) of put options. The paper further recommends that the government should write the put options at the minimum support prices fixed by the CACP (Commission for Agriculture Costs and Prices) so that farmers get the right price for their output. The recommendations of this paper are general enough to be implemented in other countries where un-remunerative crop output prices are destroying the farming industry.

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