

MEASURING DRIVERS OF PROCRASTINATION IN ACADEMIC STUDENT

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Abstract. Procrastination is the lack or absence of self-regulated performance and the tendency to deny or completely avoid an activity under one's control (Tuckman & Sexton, 1989). MARS, also known as model of individual behavior, are model used to understand on what drivers can form an individual behavior. It consist of four factors which are motivation, ability, role perceptions, and support/situational factors).As an organization, academic institution need to know the drivers of behavior that might affect their academic members performance, including student. By creating a Procrastination Scale to measure procrastination level and Academic Motivation Scale into MARS model this research gather a 116 sample of academic student in SBM ITB. The result shows that Amotivation ($r=.187$) and Motivation External of external regulation ($r=.197$) has positive correlation with procrastination level. Using hierarchical regression analysis, the result further show that amotivation ($b=.197$) act as the most dominant contributor to procrastination level. External Motivation of external regulation ($b=.126$) follows as the second contributor while Situational Factors ($b=-.127$) shows as counter contributor of procrastination. As organization SBM ITB might want to further motivate their student and give tutoring about managing academic and non-academic activities. SBM ITB might also want to maintain their support to students to avoid further problem about increasing procrastination level.

Keyword: motivation, ability, role perception, situational factor, procrastination, academic, organization

Introduction

Procrastination is the lack or absence of self-regulated performance and the tendency to deny or completely avoid an activity under one's control (Tuckman & Sexton, 1989). Through the period of student formal study, the responsibility of controlling student academic performance shifts from parents and teacher to the student themselves. According to Ferrarri (1992), avacademic procrastination have negative effect to the student, by delaying, student waste a lot of time. Many assignment and task are neglected and even if its done in time, the result is not at its best. Procrastination also could affect people to lose future opportunities.

Procrastination behavior can be affected from internal and external drivers. The external drivers that can influence student procrastination can be the achievements reward, supporting facilities and support from institution, or society perception of a good student. On the other hand, the internal drivers are internal motivation of the student, ability to accomplish tasks, and role perception as a student. Therefore it is significant to understand both external and internal drivers which can lead to the procrastination of the students.

MARS, also known as model of individual behavior, are model used to understand on what drivers can form an individual behavior. It consist of four factors which are motivation, ability, role perceptions, and support/situational factors). Motivation can be divided to internal and external drivers, which are intrinsic and extrinsic motivation (Deci & Ryan, 1991). Ability is the competence of individual to perform the task succesfully. Elangovan, Pinder, and Mclean (2010) stated that individual performance can be

affected by ability. Role perception is the perceiving or beliefs of an individual about their responsibility (Lee, 2011). Last but not least, situational factors are the environment factors that enable individual to act with their tasks. According to Chandan (2008), there are two categories of environment factors which are physical and social environment. Based on those description, MARS model fulfil both internal and external drivers that required to assess the cause of procrastination behavior.

As an organization, academic institution need to know the drivers of behavior that might affect their academic members performance, including student. Procrastination clearly shown as a negative behavior that might affect student performance. By assessing the drivers of those behavior academic organization or student as individual member of the organization could know the relevant factors to improve to avoid any negative behavior such as procrastination which can lead to a poor performance. The general objectives of this study is to measure the relationship between MARS model (motivation, ability, role perception, and situational factors) and student procrastination level.

Theoretical Framework

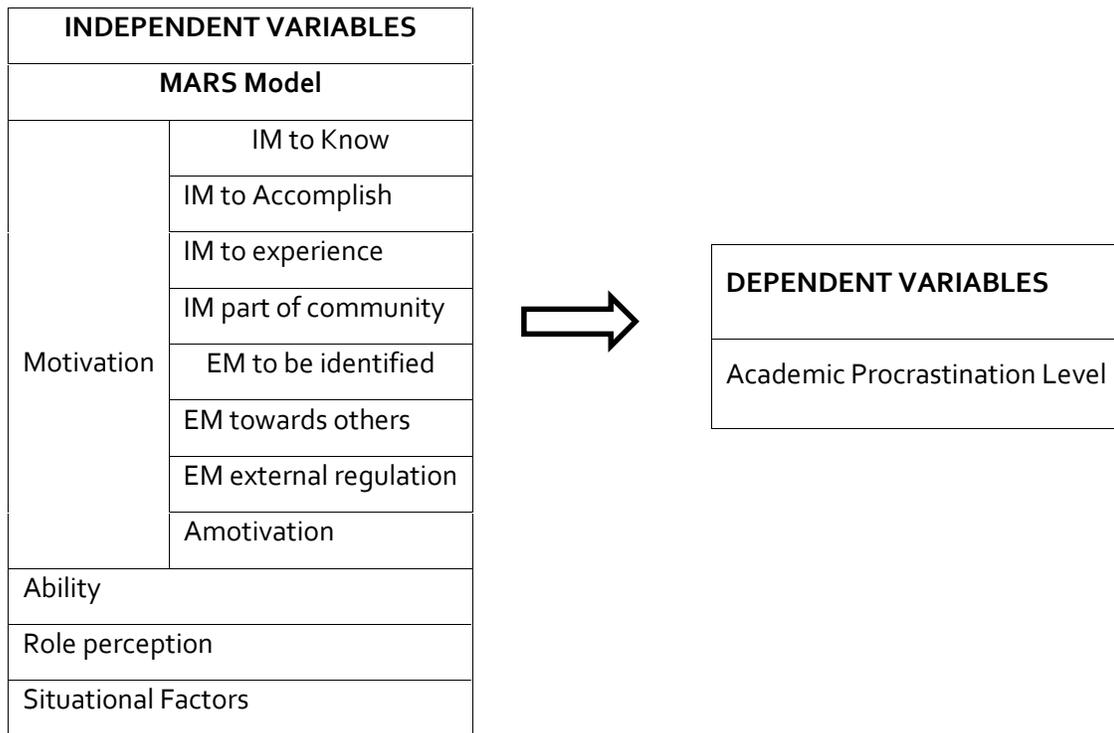


Figure 2.1 Relation between MARS model and procrastination

Methodology

The primary data needed to answer the level of procrastination is collected from questionnaire. The instrument of the questionnaire adapted from Procrastination Scale (Tuckman,1991) and Pure Procrastination Scale (Steele, 2010). This instrument will be used to measure variable dependent Y of procrastination. It consist of 9 items with each measure a 5 point-of-likert scale. The score of the respondent later will be compared to the benchmark of the mean score on other college student population that been researched in the past.

The primary data needed for the relationship between MARS and procrastination will be collected from the same respondents from the first questionnaire. The question will be derived from Academic Motivation Scale (Vallerand, 1992), Role Perception Questionnaire (Mackay, 2004). To accommodate the characteristic of the culture in Indonesia and SBM ITB as organization, relevant items were re-evaluated from those instruments by testing it by using judgement sampling from the students. Researcher picks 5 relevant students that can represent the population by picking students with enough experience and level of involvement of all academic activities within the organization. Researcher tests the questionnaire by trying to ask the students if they understand the intention of the statements. The result of the test gives that all of the students understand the statements and can relate with the statement with their daily academic activities. After testing the relevant items, the final questionnaire consists of 15 items with 5 point-of-likert scale. This section will consist of 15 items with 5 point-of-likert scale. All of the data will be used to measure all the independent variables X derived from MARS model.

Data Analysis

There are total of 116 samples of data gathered with respondent consist of 64 male students and 52 female students that at least at their third year of study. Among overall of 116 students, 38% of them are in a high level of procrastination. For the male students, 44% of them tend to procrastinate, while female students score lower on 31% of procrastination tendency.

Table 4.1 Correlation analysis between independent and dependent variable

Independent Variables	Correlation towards Dependent Variable Y	Conclusion	Hypothesis Test	
X1	-0.025	Negatively correlated	Ho 1	Do not reject hypothesis
X2	-0.055	Negatively correlated		Do not reject hypothesis
X3	0.089	Positively correlated		Do not reject hypothesis
X4	-0.045	Negatively correlated		Do not reject hypothesis
X5	0.187	Positively correlated*		Hypothesis rejected
X6	-0.021	Negatively correlated		Do not reject hypothesis
X7	-0.075	Negatively correlated		Do not reject hypothesis
X8	0.197	Positively correlated*		Hypothesis rejected
X9	0.124	Positively correlated	Ho 2	Do not reject hypothesis
X10	-0.029	Negatively correlated	Ho 3	Do not reject hypothesis
X11	-0.139	Negatively correlated	Ho 4	Do not reject hypothesis

*significant correlation

where:

- Y = Procrastination Level
- X1 = Intrinsic Motivation to know
- X2 = Intrinsic Motivation toward accomplishment
- X3 = Intrinsic Motivation to experience collective stimulation
- X4 = Intrinsic Motivation of being part of reputable community
- X5 = Amotivation
- X6 = Extrinsic Motivation to be identified
- X7 = Extrinsic Motivation introjected toward others
- X8 = Extrinsic Motivation of external regulation
- X9 = Percieved Ability
- X10 = Role Perception
- X11 = Situational Factors

Based on the pearson correlation analysis above, the data shows that for Intrinsic Motivation to know, Intrinsic Motivation toward accomplishment, Intrinsic Motivation of being part of reputable community, Extrinsic Motivation to be identified, Extrinsic Motivation introjected toward others, Role Perception and Situational Factors, although not significant, are negatively correlated with student procrastination level. However, we find that Amotivation and Extrinsic Motivation of external regulation are both significant and positively correlated with procrastination level. Also with Intrinsic Motivation to experience collective simulation and Percieved Ability, although not significant, contribute positively toward procrastination level.

Since the significant variables had already found with Pearson Correlation, the hierarchical regression analysis will be divided into 4 steps by adding significant variables in the first step, then adding Situational Factors as the second closest independent variable ($r = -0.139$) on the second step, then adding Perceived Ability as the third closest one ($r = 0.124$) and finally including all the independent variables to see if there is any other significant independent variables.

Based on four step hierarchical regression, here are the summary of the comparison of each four models:

Table 4.2 Hierarchical regression analysis

Model	Measurement	Unstandardised coefficient		Standardised coefficient	p	F	R ²	ΔR ²
		B	SE	β				
1	-	-	-	-	-	6.706*	0.10	0.10
	Constant	2.015	0.273	-	0.000*	-	6	6
	IM external reg (X8)	0.162	0.060	0.242	0.008*	-	-	-
	Amotivation (X5)	0.152	0.053	0.259	0.005*	-	-	-
2	-	-	-	-	-	6.211**	0.143	0.037
	Constant	2.350	0.309	-	0.000*	-	-	-
	IM external reg	0.197	0.062	0.294	0.002	-	-	-

	(X8)				*			
	Amotivation (X5)	0.126	0.053	0.214	0.020	-	-	-
	Sit. Factor (X11)	-0.127	0.058	-0.205	0.031*	-	-	-
3	-	-	-	-	-	4.884*	0.150	0.007
	Constant	2.249	0.327	-	0.000	-	-	-
	IM external reg (X8)	0.189	0.062	0.281	0.003	-	-	-
	Amotivation (X5)	0.118	0.054	0.201	0.031*	-	-	-
	Sit. Factor (X11)	-0.128	0.058	-0.206	0.030	-	-	-
	Ability (X9)	0.050	0.053	0.085	0.341	-	-	-
4	-	-	-	-	-	1.984	0.173	0.024
	Constant	2.040	0.531	-	0.000	-	-	-
	IM external reg (X8)	0.199	0.070	0.296	0.006	-	-	-
	Amotivation (X5)	0.145	0.065	0.247	0.028	-	-	-
	Sit. Factor	-0.159	0.071	-0.256	0.027	-	-	-
	Ability (X9)	0.032	0.058	0.054	0.589	-	-	-
	IM to know (X1)	0.083	0.081	0.132	0.306	-	-	-
	IM to accom (X2)	-0.059	0.079	-0.092	0.458	-	-	-
	IM to exp. (X3)	0.061	0.073	0.093	0.407	-	-	-
	IM part of com. (X4)	-0.026	0.065	-0.042	0.687	-	-	-
	EM identified (X6)	-0.014	0.079	-0.021	0.856	-	-	-
	EM to others (X7)	-0.013	0.070	-0.018	0.857	-	-	-
	Role Perc. (X10)	0.044	0.062	0.074	0.480	-	-	-

* $p < .05$

** $F_{test} > F_{table}$

Based from data above, we can conclude that only Model 1 & 2 that qualified to be considered as dominant factor in procrastination. However, since model 2 gives a slightly higher number of R square than Model 1, it can be concluded that regression Model 2 is the most optimal regression to calculate the dependent variable.

From regression analysis above amotivation resulted as the most dominant factor from MARS model that can influence procrastination level, while EM external regulation follow also as a contributive factor to procrastination level. Situational Factor at last act as the dominant contradictive factor to the procrastination level.

From R square value, we can see that $R^2 = 0.143$ means that this regression only represent 14,3% of total variables that contribute to procrastination level. The other 85,7% could be represented by other set of variables other than MARS model.

Conclusion

The rate of procrastination in SBM ITB students are considerably pretty high with 38% of students considered as high level procrastinator. Since SBM ITB encourage student to complete within 3 years period of study, and how SBM encourage their Strive for Excellence value, procrastination could be a crucial problem that might disrupt the process of learning on SBM ITB as an academic organization.

By using MARS model to measure the drivers of procrastination in SBM ITB, we found some variables that might influence the rate of procrastination at the student. Intrinsic Motivation to know, Intrinsic Motivation toward accomplishment, Intrinsic Motivation of being part of reputable community, Extrinsic Motivation to be identified, Extrinsic Motivation introjected toward others, Role Perception and Situational Factors, all although not significantly correlated, are all variables measured that resulted in negative correlation with procrastination level. Thus all of the attribute above should gives insight on SBM ITB on correlating the source of procrstination behavior within their academic student.

While we also finds that some factors also correlate positively with procrastination. Amotivation ($r = .187$) and Extrinsic Motivation of external regulation ($r = .197$) becomes the most significant positive correlation to procrastination level. Although not as significant, Intrinsic Motivation to experience collective stimulation and Perceived Ability also measured having a positive correlation with procrastination level.

From regression analysis, this research finds that Amotivation ($\beta = .197$) is the most dominant factor when it comes to influencing procrastination level. Extrinsic Motivation of external regulation ($\beta = .126$) comes second as the most dominant contributive influence to procrastination, while lastly Situational Factors ($\beta = -.127$) contribute as the only contradictive factors.

From findings above, we can conclude that Amotivation and Extrinsic Motivation of external regulation is attributes that SBM ITB might want to control within the organization therefore the level will not get higher. SBM ITB might also want to look at the Situational Factors within the organization as it is proven organizational support could decrease the level of procrastination.

Based on our conclusion, here are some suggestion for SBM ITB on how to take care of the student procrastination tendency in the future:

1. Most of the student in SBM ITB had a high level of motivation. However, they feel that as time goes their motivational level are decreasing. Amotivation might happen because student did not find any stimulation or rewards that can maintain their high motivation. To overcome this problems, SBM might want to seek a better stimulation and reward program for the student.

2. The level of Extrinsic Motivation of external regulation show that most of SBM student prefer to seek activities outside academic program to seek stimulation and rewards. This situation might be happened because the reward they got from activities outside academic programs such as, managing their own business, extracullicular programs, other non-academic projects are more satisfying than the rewards they got in academic situation.

This situation can be resolved because academic accomplishment did not gave the student frequent short-term rewards and stimulation that they experience in external activities. rather than long term rewards they might got by getting excellent result on scholarly academic activities. SBM might want to give counselling on student about those long term rewards they might got by planning their academic life better than before.

4. Since Situational Factors has been found as an attribute that can be used to decrease procrastinational level at students, SBM should further increase their support both from physical facilities and direct person-to-person support. The role of Professors, lecturer, academic advisor to academic staff can be crucial. Combining with other findings we have before, academic staff could be a crucial agent as both motivator for student and tutor on educating student on how manage focus and priorities wisely between academic activities and other external activities.

5. Perceived Ability unexpectedly scores pretty high ($r = .124$) on positive relation with procrastination level. A further interview gives insight that student feels that if they feel that the academic tasks are not challenging enough. The amount of time given to do the tasks are too long so they tend to procrastinate because they feel that they can finish it the night before. This might not be a problem unless the level of regret on not doing tasks early are high on the students. The statement at the questionnaire shows that complacency towards their own ability hit back at their own academic performance.

SBM might resolve this situation by giving student smaller task with shorter time of deadline. Student will not have any time to procrastinate and will give their full effort on that short time period of tasks deadline.

Several limits to this study suggest that researcher should be careful on drawing conclusion from this research. First, this research design its framework by adapting not only MARS model but also several relevant theories to develop the sub-variable. The framework, instrument of research and analysis has been done by highly considering the characteristic of SBM ITB as academic organization. The result shown by this research also limited to represent how variables in this exact framework interact with each other. Therefore, a different research in the future with same MARS model foundation might give a different result because the different approach to the MARS model itself.

Second, this research is done in a nonrandom population, which all of the sample are Indonesians. SBM ITB itself provide a lot of different support to their students compared to other academic organization in Indonesia. Thus, sample in this study may not represent the general condition of academic students. All of this limitation done to maximize the homogenous experience toward the organization itself and aimed in order that the result represent the members of SBM ITB as academic organization.

References

- Chandan, J. S. (2009). *Organizational Behaviour*, 3E. Vikas Publishing House PVT LTD.
- Csikszentmihalyi, M. (2002). The concept of flow. *Handbook of positive psychology*, 89-105.
- Deci, E. L. (1976). Notes on the theory and metatheory of intrinsic motivation. *Organizational behavior and human performance*, 15(1), 130-145.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational psychologist*, 26(3-4), 325-346.
- Elangovan, A. R., Pinder, C. C., & McLean, M. (2010). Callings and organizational behavior. *Journal of Vocational Behavior*, 76(3), 428-440.
- Ferrari, J. R. (1992). Procrastinators and perfect behavior: An exploratory factor analysis of self-presentation, self-awareness, and self-handicapping components. *Journal of research in personality*, 26(1), 75-84.

- Ferrari, J. R., Keane, S. M., Wolfe, R. N., & Beck, B. L. (1998). The antecedents and consequences of academic excuse-making: Examining individual differences in procrastination. *Research in Higher Education, 39*(2), 199-215.
- Hamburg, M. (1974). *Basic statistics*.
- Kline, R. B. (2004). Beyond significance testing: Reforming data analysis methods in behavioral research.
- Lawler III, E. E. (1973). *Motivation in work organizations*.
- Lee, E. (2005). The relationship of motivation and flow experience to academic procrastination in university students. *The Journal of Genetic Psychology, 166*(1), 5-14. Retrieved from <http://search.proquest.com/docview/228500284?accountid=31562>
- Mackay, S. (2004). The role perception questionnaire (RPO): a tool for assessing undergraduate students' perceptions of the role of other professions. *Journal of Interprofessional Care, 18*(3), 289-302.
- McShane, S., & Von Glinow, M. (2015). *M: Organizational Behavior*.
- Newstrom, J. W., & Davis, K. (1986). *Human behavior at work*. New York. McGraw-Hill.
- Ryan, R. M. (1991). A Motivational Approach to Self: Integration in Personality Edward L., Deci and. *Perspectives on motivation, 38*, 237.
- Senécal, C., Koestner, R., & Vallerand, R. J. (1995). Self-regulation and academic procrastination. *The Journal of Social Psychology, 135*(5), 607-619.
- Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of counseling psychology, 31*(4), 503.
- Steele, M. R. (2011). Relative contributions of self-efficacy, self-regulation, and self-handicapping in predicting student procrastination 1. *Psychological reports, 109*(3), 983-989.
- Tuckman, B. W. (1991). The development and concurrent validity of the procrastination scale. *Educational and psychological measurement, 51*(2), 473-480.
- Tuckman, B. W. (1998). Using tests as an incentive to motivate procrastinators to study. *The Journal of Experimental Education, 66*(2), 141-147.
- Tuckman, B. W., & Sexton, T. L. (1990). The relation between self-beliefs and self-regulated performance. *Journal of Social Behavior and Personality, 5*(5), 465-472.
- Vallerand, R. J. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and psychological measurement, 52*(4), 1003-1017.