Burn-out Syndrome and Innovative Work Behavior as a Result of Cyberloafing: A Structural Equation Modelling Approach

Sureerut Inmor[1], Rungsan Suwannahong[2]

[1]Information Systems Department
Rajamangala University of Technology Thanyaburi
Pathumthani, Thailand
sureerut_i@rmutt.ac.th[1], rungsan_s@rmutt.ac.th[2]

Abstract— Research on Burn-out Syndrome and Innovative Work Behavior as a Result of Cyberloafing has conducted survey with the sample populations of 385 employees, aged more than 18 yrs. who works in public and business sector, Thailand. The purpose is to study the influence of cyberloafing toward the creative thinking and burn-out syndrome in order to create the suggestion on how to promote and support the innovative work behavior of employee. The statistics used in data analysis are descriptive statistics (mean, percentage, and standard deviation) and inferential statistics (Structure Equation Modelling: SEM). Different demographic factors do not affect different innovative behavior/ burn-out syndrome but affect different cyberloafing. Different demographic factors have an indirect effect on innovative behavior via cyberloafing. Cyberloafing could increase the innovative behavior of employee. Different demographic factors do not indirectly affect burn-out syndrome through cyberloafing. The cyberloafing is not the reason for burn-out syndrome. The result could be used to support the idea of not to totally prohibit the employee from cyberloafing, but to support them in an appropriate time. The cyberloafing is the way to encourage innovation idea and reduce the burn-out syndrome among employee.

Keywords- Cyberloafing; Burn-out Syndrome; Innovative Idea; SEM; Workplace;

I. INTRODUCTION

Using the internet at work for personal purposes (Cyberloafing) is classified as behavior that adversely affects productivity and reduces work efficiency of employees. The cyberloafing is often not accepted at work. The behavior may start from searching the internet without a definite destination, unrelated to the operation, and using applications that are intended for personal missions such as financial transactions, personal communication, and entertainment purpose. Research has done to survey the amount of internet use in the workplace, about 30% -50% is not related to work, resulting in the loss calculated in large amounts of working time [1]. Currently, there are many devices that can use the internet such as smart phones and portable computer accessories, as well as increasing the efficiency of high speed internet systems, resulting in being able to connect to the internet anytime, anywhere. Allowing employees to switch their regular working hours for personal use without the organization being able to clearly notice.

Research related to the use of the internet for personal missions has been divided into three main categories. The first group studied to find ways to reduce or prevent personal internet use. Electronic methods and organizational policies are designed to reduce these problems [2][3][4]. The second group is a study to understand the behaviors and creating a balance between the use of the internet for work and personal tasks [5][6]. In the third research group is to find the behavior that causing employees to use the Internet for personal mission [7][8]. The idea from three research groups suggest that cyberloafing in workplace cause bad effects to the entire budget of the organization's expenses and also reducing the efficiency of the employee works. As for the reason that employees take the time they should spend working for the organization to do the personal tasks.

However, some research has started to study The positive impact of cyberloafing by using psychological principles of relaxation from work and providing a good working atmosphere, resulting in increased efficiency and productivity [9] [10]. Preventing personal internet usage at work can be easily carried out such as installing a usage monitoring system, restricting access to information that is not related to work as well as physical methods such as the computer screen layout that be clearly seen and making it impossible to use the part that is not relevant to the operation. Those actions inevitably cause psychological disadvantages because of limiting the right to communicate, which causes employees to have stress at work and will ultimately have an adverse effect on work performance.

The researcher therefore proposed the research guidelines on the study of the relationship between the cyberloafing and the work relaxation as well as creative thinking at work. To present the result in support of decision making in determining the appropriate internet usage policy in the workplace to reduce losses resulting

from negative effects. At the same time, it draws the benefits of the positive impact to maximize the benefits of the organization.

II. Conceptual Framework

The research hypothesis stated as follows:

1. Different demographic factors affect different innovative behavior.
2. Different demographic factors affect different burn-out syndrome.
3. Different demographic factors affect different cyberloafing.
4. Demographic factors have indirect effect on innovative behavior through cyberloafing.
5. Demographic factors have indirectly effect on burn-out syndrome through cyberloafing.

The conceptual framework for the research is shown as the following:

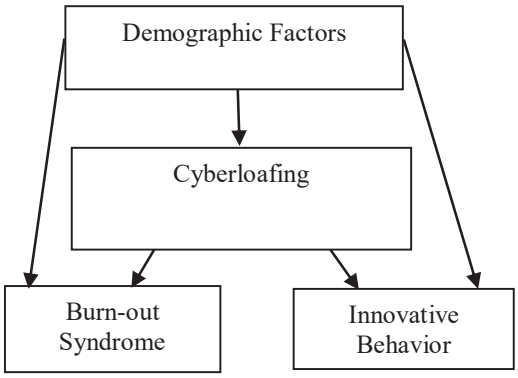

Figure 1. Conceptual Framework.

III. Literature Review and Related Studies

Burn-Out Syndrome is a disease that was first used by American psychiatrist, Herbert Jeff Floydenberger in 1974, considered to be a psychosis for workers. The signs that indicate this disease is feeling bored with work, stress, insomnia, unhappy, and not enjoying the work due to overwork and lack of rest. The way to prevent this disease is to have enough rest. If working for an hour, should use the brain for working 45 minutes and have a 10-15-minute break so that the brain can eliminate stress and circulate new knowledge and information. If person gets bored can lead to the occurrence of other serious diseases such as heart disease, depression, high blood pressure, disease related to the listening system, peripheral neuropathy, and has a high chance of infectious diseases. According to medical statistics, women suffer from this disease more than men.

Most organizations are aiming to keep up with technology and modern changes. The innovation development affects the progress of the organization which can be expressed in many areas such as creating a business operating model, management techniques, corporate strategy, and designing products/services in various forms [11]. Organizations need to focus on creativity characteristics of employee, to compete with organization from around the world and adapt to various situations [12][13[14]. The research from [15], indicates the main characteristics of innovative behavior as follows:

1. Able to present creative ideas.
2. Finding information to support new concepts of technology, work process methods, and procedures for conceptualization.
3. Search for creative sources.
4. Plan and schedule for the creative application in stages.
5. Encourage and support the creativity of colleagues.
6. Think of themselves as an employee who works with creativity.

Using internet in the workplace for personal tasks (Cyberloafing) have a detrimental effect on allowing such actions. These lead to waste of the organization's resources in terms of the efficiency of the computer system, duration of work, expenses that are lost instead of using those resources for the benefit of the organization [1]. In addition to Cyberlofing, English vocabulary is used in various forms to describe these actions such as non-work related computing, cyberslacking, cyberbludging, on-line loafing, internet deviance, problematic internet use, personal web usage at work, internet dependency, internet abuse, internet addiction, and internet addiction disorder [16].

A report on the loss of use for personal reasons research [2] on designing electronic use policies to enhance employee perceptions of fairness and to reduce cyberloafing. An empirical test of justice theory found in the United States that the total productivity of employees decreased by 30-40%, representing a loss of approximately 750 million US dollars/year. These causes the organization to focus on finding preventive method to reduce the rate of unrelated internet usage. The physical protection such as turning the computer screen into the corridor, installation of the protection program is suggested from research on understanding personal use of the internet at work. An integrated model of neutralization techniques and general deterrence theory [17] to provide management training to build knowledge and the awareness of the employees regarding the matter.

The research on correlates of different forms of cyberloafing from [10] studied the reasons that employees have cyberloafing. Employees who use the internet in moderate to small amounts feel that this is acceptable because it does not affect the use of enterprise resources too much. Another reason has been mentioned in the research from Singapore [18] as prevalence, perceived seriousness, justification, and regulation. Most

employees argue that using the internet causing them to be involved in work, even when working out of time at home or at rest with the family. Therefore, it is appropriate to use for personal tasks in the workplace as to compensate for the time they have to spend working part-time.

Research from [15] examines the relationship between personal internet usage habits and creative work in Turkey. It is found that there is a moderate level of relationship that leads to creativity. The research offers a viewpoint on how to provide a suitable work environment so that employees can use the internet during work instead of limiting completely personal use. There is also research from [9] that summarizes the findings of the advantages of personal use in areas that help reduce stress from work. empowering work, and increase operational efficiency. This has the same effect as the research from [10] on the positive impact of personal internet usage as to promote a learning environment, flexibility in operations as well as helping to increase creativity in the workplace.

IV. Analysis of Data

The finding revealed that majority of population were female, age between 25 -45 yrs., bachelor's degree, with less than 5 yrs. working experience, and position usage of computer as the second task. Analysis of data according to each category using descriptive statistics display in table I-VI.

TABLE I. DISPLAY MEAN AND S.D. FOR THE INTERNET USAGE BEHAVIOR

Internet usage	$\bar{x}$	S.D.	Meaning	Order
1. Online Transaction (Behavior1)	3.76	0.95	Often	4
2. Seeking Information (Behavior2)	3.71	0.88	Often	5
3. Personal e-mail (Bahavior3)	3.83	1.01	Often	3
4. Social Networks (Behavior4)	4.08	0.98	Often	2
5. Entertainment (Behavior5)	4.08	0.95	Often	1

The survey gives us the conclusion the most personal usage of internet are for social network and entertainment.

TABLE II. DISPLAY MEAN AND S.D. FOR THE BURN-OUT SYNDROME

Burn-out Type	$\bar{x}$	S.D.	Meaning	Order
1. Insomnia (Risk1)	2.83	0.98	Sometimes	2
2. Stress and irritability (Risk2)	2.89	0.93	Sometimes	1
3. Not happy at work (Risk3)	2.65	1.03	Sometimes	4
4. Poor memory, lack of concentration and determination of work	2.50	1.01	Rarely	5
5. Fatigue Lacking enthusiasm for work (Risk5)	2.74	1.10	Sometimes	3

The employee has the burn-out type for stress and irritability at the most with the least in poor memory, lack of concentration and determination of work.

TABLE III. DISPLAY MEAN AND S.D. FOR THE INNOVATIVE BEHAVIOR

Innovative Behavior	$\bar{x}$	S.D.	Meaning	Order
1. Seeking newly Information (Activity1)	3.67	0.68	Often	4
2. Plan Operational (Activity2)	3.63	0.71	Often	5
3. Encourage colleagues (Activity3)	3.73	0.80	Often	2
4. Having a creative idea (Activity4)	3.73	0.75	Often	1
5. Success in creativity (Activity5)	3.72	0.78	Often	3

Among the 5 categories of creative thinking, the research found that having a creative idea is the most behavior. The least occurred type of creating thinking is to plan operational.

By using the full model of the causal path analysis of all factors, the model shown as follow:

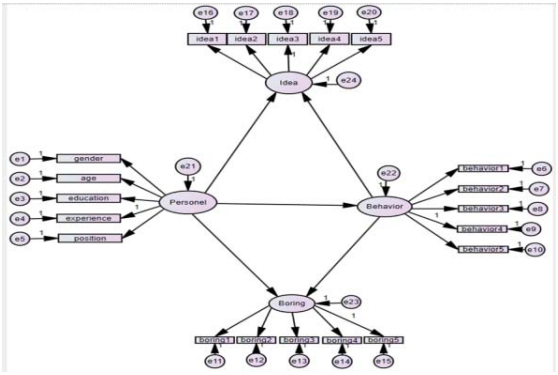

Figure 2. Path Analysis Model.

The path analysis results of the full relationship model of independent variables and dependent variables (latent variables). The researcher created in accordance with the concepts, theories, and related research mentioned before. It is used to create an over identified model which has a path in the same direction that can be linked to the variable as internal variable or hidden variable in every structural equation. The statistics show the relationship between variables with standard regression coefficient

(Standardized Regression Weights) t-Value (critical ratio: C.R.), p-Value and standard error (S.E.) which results from the analysis as in Figure 3.

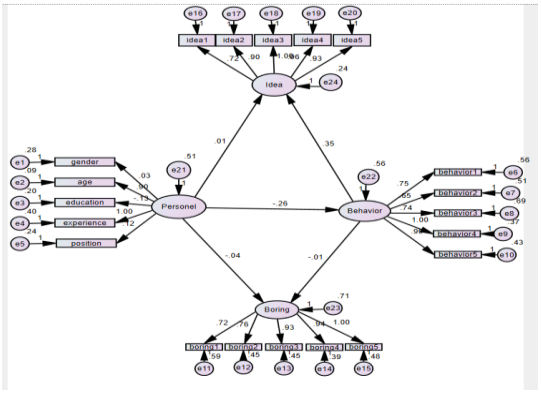

Figure 3. Model parameter estimation results.

The result from model parameter estimation could be display in form of table as in Table IV.

TABLE IV. DEMONSTRATE THE STANDARDIZED REGRESSION WEIGHTS

Relationship pairs between			Estimate	S.E.	C.R.	P
Behavior	<-	Personal	-0.263	0.068	-3.899	***
Idea	<-	Personal	0.006	0.047	0.127	0.899
Idea	<-	Behavior	0.348	0.051	6.897	***
Boring	<-	Personal	-0.038	0.074	-0.52	0.603
Boring	<-	Behavior	-0.009	0.07	-0.13	0.897
experience	<-	Personal	1			
education	<-	Personal	-0.133	0.036	-3.706	***
age	<-	Personal	0.899	0.137	6.558	***
gender	<-	Personal	0.035	0.041	0.849	0.396
behavior1	<-	Behavior	0.754	0.069	10.981	***
behavior2	<-	Behavior	0.654	0.064	10.288	***
behavior3	<-	Behavior	0.736	0.073	10.077	***
behavior4	<-	Behavior	1			
behavior5	<-	Behavior	0.899	0.07	12.79	***
idea1	<-	Idea	0.716	0.071	10.055	***
idea2	<-	Idea	0.895	0.077	11.642	***
idea3	<-	Idea	1			
idea4	<-	Idea	0.96	0.081	11.879	***
idea5	<-	Idea	0.934	0.083	11.237	***
boring1	<-	Boring	0.718	0.062	11.654	***
boring2	<-	Boring	0.761	0.058	13.104	***
boring3	<-	Boring	0.927	0.064	14.419	***
position	<-	Personal	0.12	0.039	3.082	0.002
boring4	<-	Boring	0.944	0.063	14.937	***
boring5	<-	Boring	1			

Note: *** statistically significant p <0.001

Hypothesis testing can be summarized as follows:

Hypothesis 1: Different demographic factors affect different innovative behavior. The P-value (0.899) is higher than 0.05, therefore reject the hypothesis. This means that different demographic factors do not affect different innovative behavior.

Hypothesis 2: Different demographic factors affect different burn-out syndrome. The P-value (0.603) is higher than 0.05, therefore reject the hypothesis. This means that different demographic factors do not affect different burn-out syndrome.

Hypothesis 3: Different demographic factors affect different cyberloafing. The P-value (<0.001) is lower than 0.05, the hypothesis is accepted. This means that different demographic factors affect different cyberloafing.

Hypothesis 4: Demographic factors have indirect effect on innovative behavior through cyberloafing. Between demographic factors/cyberloafing and between cyberloafing/innovative behavior, the P-value (<0.001) is lower than 0.05, therefore accept the hypothesis This means that different demographic factors have an indirect effect on innovative behavior via cyberloafing. Cyberloafing could increase the innovative behavior of employee.

Hypothesis 5: Demographic factors have indirect effect on burn-out syndrome through cyberloafing. Between cyberloafing/burn-out syndrome, the P-value (0.897) is higher than 0.05, therefore reject the hypothesis. This means that different demographic factors do not indirectly affect burn-out syndrome through cyberloafing. The cyberloafing is not the reason for burn-out syndrome.

From the Regression Weights table (Table IV), between the respondents' gender/demographic factors, the P-value (0.396) is higher than 0.05, indicating that the respondents' gender is not suitable to be a representative of demographic factors, as a result then eliminating this variable from next calculation as display in Figure 4.

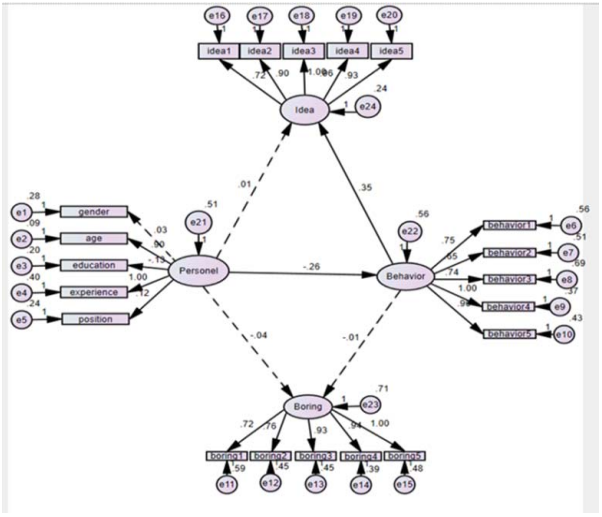

Figure 4. Correlation path of models.
Remark: Significant ——→
Insignificant ·····→

After model adjustment as a result form regression weight table, Figure 5 shows model estimation results or various coefficient estimation results.

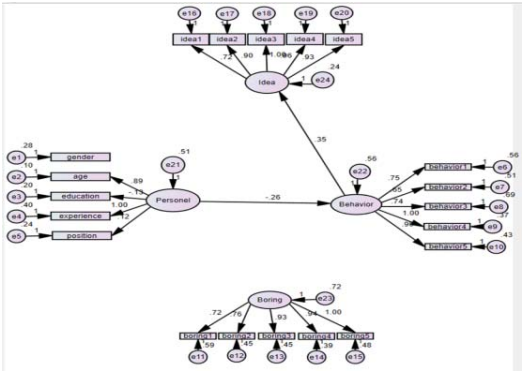

Figure 5. Model Estimation Results.

The result from model parameter estimation could be display in form of regression weights value as in Table V.

TABLE V. DEMONSTRATE THE STANDARDIZED REGRESSION WEIGHTS

Relationship pairs between			Estim	S.E.	C.R.	P
Behavior	<---	Personal	-0.262	0.067	-	***
Idea	<---	Behavior	0.346	0.049	7.10	***
experience	<---	Personal	1			
education	<---	Personal	-0.134	0.036	-	***
age	<---	Personal	0.891	0.136	6.53	***
behavior1	<---	Behavior	0.753	0.069	10.9	***
behavior2	<---	Behavior	0.654	0.064	10.2	***
behavior3	<---	Behavior	0.735	0.073	10.0	***
behavior4	<---	Behavior	1			
behavior5	<---	Behavior	0.899	0.07	12.8	***
idea1	<---	Idea	0.717	0.071	10.0	***
idea2	<---	Idea	0.896	0.077	11.6	***
idea3	<---	Idea	1			
idea4	<---	Idea	0.959	0.081	11.8	***
idea5	<---	Idea	0.934	0.083	11.2	***
boring1	<---	Boring	0.718	0.062	11.6	***
boring2	<---	Boring	0.762	0.058	13.1	***
boring3	<---	Boring	0.927	0.064	14.4	***
position	<---	Personal	0.12	0.039	3.09	0.002
boring4	<---	Boring	0.944	0.063	14.9	***
boring5	<---	Boring	1			

From the model path, the relationship of variables has been adjusted into the best relationship. Therefore, the aforementioned relationship model is used to analyze the Direct Effect (DE), Indirect Effect (IE), and Total Effect (TE) as shown in Table VI.

TABLE VI. DEMONSTRATE THE RESULTS OF EFFECT BETWEEN VARIABLES

Factor	Effects Type	Predictive variable			
		Personal	Behavior	Activity	Risk
Behavior	Direct	-0.26	0	0	0
	Indirect	0	0	0	0
	Total	-0.26	0	0	0
Idea	Direct	0	0.35	0	0
	Indirect	-0.091	0	0	0
	Total	-0.091	0.35	0	0

The conclusion of the research is based on the analysis of influence values as follows:

1. Demographic factor (except gender, due to lack of statistical significance) have a direct influence in the opposite direction to the cyberloafing, with predicted values of -0.26 can be analyzed as follows:
   - Older employees are less likely to use the internet for personal tasks (0.89 * -0.26 = -0.2314).
   - Higher educated employees are more likely to use the internet for personal tasks (-0.13 * -0.26 = 0.0338).
   - Employees with more work experience are less likely to use the internet for personal tasks (1 * -0.26 = -0.26).
   - Employees who use computers as main job are less likely to use the internet for personal tasks (0.12 * -0.26 = -0.0312).
2. The cyberloafing has a direct influence in the same direction with innovative idea with predicted value of 0.35. Meaning that Increasing use of the internet for personal missions' results in increased innovative idea since the regression weights are all positive.
3. Demographic characteristics (except gender, due to no statistically significant) have indirectly effect in the opposite direction for innovative idea through the cyberloafing, with predictive values of -0.91 (-0.26 * 0.35). The analysis can be explained as follows:
   - Employees who use the internet for personal tasks in an older group is less tendency of being creative at work than the younger group (0.89 * -0.091 = -0.08099).
   - Employees who use the internet for personal tasks in highly educated groups are more creative in their work than those with less education (-0.13 * -0.091 = 0.01183).
   - Employees with higher working experience, who use the internet for personal tasks are less creative than those with less work experience (1 * -0.091 = -0.091).
   - Employees with secondary task in computer, who use the internet for personal tasks are less creative in their work than those who use computers as main work (0.12 * -0.091 = -0.01092).

V. CONCLUSION

This research focuses on using the internet at work for personal missions (Cyberloafing) on how it affects Innovative idea and job boredom (Burn-out syndrome). The studied of demographic characteristics that may indirectly affect innovative/burn-out through the cyberloafing. Research shows that using the internet for personal missions leads to higher creativity at work. When changing the perspective to indirect results, there is a corresponding data that demographic characteristics indirectly affect creativity through the cyberloafing. Regarding burn-out syndrome, the research results do not find any influence from the cyberloafing like affecting in innovative idea.

Allowing employees to use the internet for personal tasks in an appropriate manner also helps employees relax from work stress and being more creativity. The organization should have measures to promote the use of

the internet appropriately, it should have better results than the totally prohibited.

VI. Limitation and Further Study

Creativity at work is important in an era of high competition in business. There should be further study of the working environment that affects the creativity behavior by evaluating the relationship and influence in more detail. The study might be more specific on working position for getting recommendations that can be adapted for real benefits. In addition to analyze the organization creativity, there should be extended to self-employed people for finding the factors that reinforce the innovative idea. Establishing an appropriate internet usage policy as well as presenting ideas related to creative thinking at work should be implemented.

As for job boredom, it is still an interesting topic as a major obstacle to creativity. There should be an analysis of other factors that may affect the boredom of employees in the organization.

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