

**WILLINGNESS TO USE REFLECTIVE FABRICS IN
PERSPECTIVE OF OUTDOOR USER**



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ABSTRACT

This thematic paper focuses on the study in the reflective fabric in perspective of the outdoor user in Thailand. The objective of the research to identify which attribute influence Thai outdoor user to apply reflective fabrics for safety and fashion purpose. Also, to define the potential target group for reflective fabric products. This study applied the adaption of The Unified Theory of Acceptance and Use of Technology (UTAUT) that there are five constructs from the original model are selected and added two more constructs that are Safety and Fashion as the moderators. Therefore, in this study is consist of seven constructs to see the behavioral intention. Quantitative research is used to collect data from 400 respondents who always do outdoor activities that have different age, gender, and occupation. The result shows that there are four out of six attributes that significant with behavioral intention of reflective fabric. The study adapts only five constructs and focuses on safety and fashion to implement in the textile business.

KEY WORDS: Reflective Fabric/ Outdoor user/ Willingness to Use

43 pages

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CHAPTER I

INTRODUCTION

1.1 Background

Consumer lifestyle is changing. They are trying to be healthier, and they have more concern to consume foods or products. Even though, healthy products are more expensive than chemical products. They are willing to pay more to have better health. Thai consumers are looking for ways to revolutionize themselves better. According to a survey of Thai consumer personal goals for 2018, the respondents are 1,500 Internet users aged 16 and above in major cities in Thailand found that 79% they would like to have a healthier diet while 76% would like to have a better work-life balanced life and 73% intend to exercise more. Moreover, 48% They plan to adjust their diets over the next 12 months for their health (Mintel Group, 2018) It can say that in the future, the food and drink industry has the opportunity to grow.

Only food is not the factor to be healthy, but also the exercise. Having the right exercise level to the correct ages is also the critical part of "Physical Activity." It means the body movement such as walking, cycling, dancing, yoga or in action during working. The exercise trend in Thailand has been drastically increased due to the healthy trend. Refer to the research from the National Statistical Office Thailand. It revealed that the proportion of Thai population in the age of 15-59 years has increased from 2% in the year 2007 to 16% in the year 2011 (National Statistical Office Thailand, 2011). Currently, there are several running events in Thailand. According to Marketeer, in one week there are more than 5-6 running events, in the half of the year 2018 there were 122 running events in Bangkok and 499 running events throughout the country from 2010 there were only 74 running events in Bangkok and 508 events throughout the country. (Marketeer, 2018)

Running events were established in multiple scales. Although there is the fee to join the running events, it is still popular among all ages and being reviewed and commented throughout the social media. Apart from the trend of a healthy lifestyle,

running is also considered as a leisurely sport which mainly requires only the running shoe as the extra gear. There might be some other motivations, i.e., new friends and communities, being self-esteem for the achievement at the finish line, medals or souvenirs.

Cycling is also on the trend of a favorite sport, refer to the *Marketeer Magazine*, (Marketeer, 2015). People tend to join the cycling events, and the example is the "Bike for Mom" event where there were 177,000 people throughout Thailand joining this event. In 2018, there are 3.2 million cyclists which increased from 2.7 million cyclists in 2014. Due to the high demand, the bike lanes and the standard bike practice fields were also constructed and serviced to the cyclists.

Due to the increase of runners and cyclists are related to increasing of accidents during the exercise as running or cycling. This accident could be on the road, the roadside or even in the dedicated exercise place such as the Sky Lane (the famous cycling lane at Suvarnabhumi Airport) in either day or night. Refer to research in Australia. The cyclists have relative fatality rate 10-20 times over the car occupants. The massive difference in cycling safety between Australia and other wealthy nations, as well as the large gap between cyclist and car occupants safety in Australia, suggest that there may be "cycling blind spot" in road safety in Australia (J Gerrard, 2010).

To have a good life we need for protection and security. Innovation and technology equipment recently help people to make life safer and more comfortable, such as healthcare technology, fire safety equipment or reflective vests used in construction sites, industries or on the road, this technology is effortless technology which reflects the light in the darkness to reduce blind spot and invisible. The reflective fabric is mainly used for safety, but not in everyday items. Therefore, adapting the reflective fabric to the fashion industry is an excellent opportunity to achieve both safety and fashion.

Reflective fabric can serve as the mitigation to the risk of "blind spot" in term of safety equipment in daily life, particularly item for outdoor activities to increase visibility. It's not limited as the safety purpose but can utilize as safety and fashionable accessories for outdoor activities.

1.2 Problem Statement

Reflective fabrics have been used in industrial level for a long time due to the safety purpose, however, what this finding would like to find out that will regular consumer accept and adopt this reflective fabrics as part of safety equipment with their daily life or outdoor activity by applying “Unified Theory of Acceptance and Use of Technology” (UTAUT) model. The model would help to point out how behavioral intention could result in the usage of the reflective fabric.

1.3 Research Objective

1.3.1. To identify which attribute influence Thai outdoor user to apply reflective fabrics for safety purpose.

1.3.2. To identify which attribute influence Thai outdoor user to apply reflective fabrics for fashion purpose.

1.3.3 To define the potential target group for reflective fabric safety and outdoor fashion items

1.4 Scope of Study

This study focuses on behavioral intention after consumers have seen the product example. This study will take place in Thailand, which is the country of origin of this study and author. This study is decidedly one of the first studies about reflective fabric as outdoor fashion safety equipment, but not safety equipment. There have been very few studies related to this topic, and the author would like to explore more about how it relates to the Thai context. This will help stakeholders to have more understanding about the utilization of reflective fabrics as in fashion perspective. Hence, this study will take place in Thailand, focusing on Bangkok where most business is conducted. The target is people who usually have outdoor activities especially walking, running and biking. The method to collect the data will be via a questionnaire, which can accumulate at various times. The amount is 400 samples, and market analysis has been carried out in the Thai market.

1.5 Benefits of Study

This study will help stakeholders, who are interested in the textile industry, understand more about Thai consumer aspect about the reflective fabric which can be utilized beside safety equipment to fashionable accessories. However, it still maintains the primary purpose of itself which is safety. Also, this finding can help textile stakeholder do product extension. This is giving a chance to be a leader in the up-to-date safety equipment.



CHAPTER II

LITERATURE REVIEW

2.1 Literature Review

This chapter has two parts. First, The historical development of the UTAUT model and The adaption of Unified Theory of Acceptance and Use of Technology (UTAUT) with the determinants and mediators that will be used in this study to find the acceptance of reflective fabric in safety and fashion purpose in the textile industry. In this case, technology is the reflective fabric as safety and fashion wear or accessories.

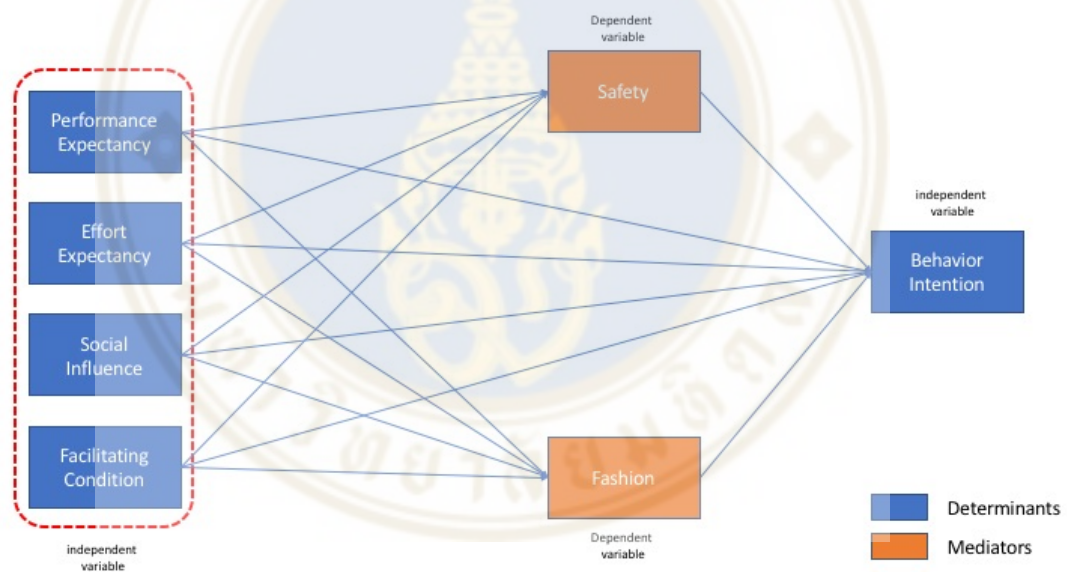


Figure 2.1 The Conceptual Framework

*Adjusted conceptual model according to the context of the study

UTAUT-Historical Development

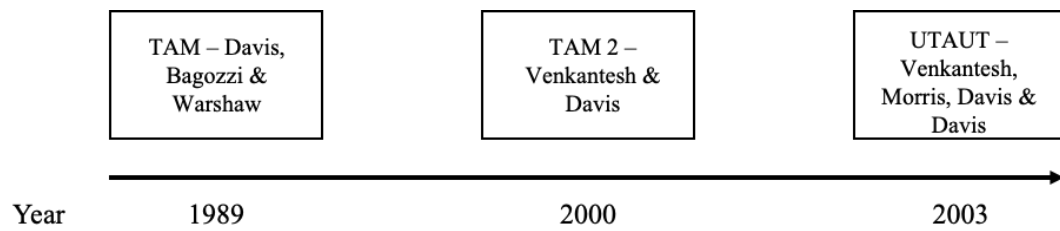


Figure 2.2 Historical development of technology adaption model

Technology Acceptance Model (TAM) was the first model to more excellent understand people in technology acceptance, and this model has the objective to interpret and predict that certain technology will be accepted or not. Initially, it used to study in the context of accepting the use of information systems. TAM has two fundamental determinants those are Perceived Usefulness and Perceived of Use. Both factors could lead the Attitude Towards Use, and then it influences Intention To Use and Actual Use of technology.

Technology Acceptance Model 2 (TAM 2) is developed a model from TAM throughout the year, it was amended and added external variables and antecedents which influence the perception of the benefit from information system, and recognition that the system is easy to use. The additional variables are Social Influence Process and Cognitive Instrumental Process (Kessler & Martin, 2017).

The Unified Theory of Acceptance and Use of Technology (UTAUT) is the developed model from TAM 2. It is a combination of eight models and theories that the author had listed on Table X (Francisco & Swanson, 2018).

Table 1.1 Theoretical Origination of UTAUT

#	Theory	Source	Description
1	The Theory of Reasoned Action (TRA)	Ajzen & Fishbein	Predict individual behavior; describe the relationship of pre-existing attitude and intention that influence behavior.
2	The Technology Acceptance Model (TAM)	Davis	Acceptance and use mode as an indicator of the success of technology utilization
3	The Theory of Planned Behavior (TPB)	Ajzen	The Social psychology that was developed from the "TRA" Theory by including the factor of "Perceived Behavioral Control," to reduce the limitation of TRA Theory and being able to apply to study the intention and behavior in various context. The first model involves the psychological factors and acceptance of technology
4	A combined TBP/TAM	Taylor and Todd	The combination of TBP and TAM by adding two factors that are Subjective Norm and Perceived Behavioral Control to be able to have more complex data
5	The Model of PC Utilization (MPCU)	Thompson	This model is suitable for predicting the acceptance to use of information technology in personal computer more than study and explain the intention to use

Table 1.1 Theoretical Origination of UTAUT (cont.)

6	Diffusion of Innovation Theory (DIT)	Rogers	To study the spread of usage in technological innovation that has four main elements
7	Social Cognitive Theory (SCT)	Bandura	Used to study the changes in human behavior based on the idea that people learning by observing others, it has been driven by the factors which are Cognitive Factors, Environmental Factors, and Behavioral Factors
8	The Motivational Model	Davis	It used for psychological research that studies the motivation that affects behavior by applying the theory of motivation to study in accepting the use of new technology

*Author completion

The UTAUT model has primary four dominants which are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, these four dominant effects the Behavioral Intention which it can predict actual use of technology (Lee, Park, Cho, & Jin, 2018).

Performance Expectancy is described as "the degree to which using technology will provide benefit to the consumer in performing certain activities" (Venkatesh, Thong, & Xu, 2012), it is the belief of the individual people that can help increase the operational efficiency for technology users. The use of reflective fabric is a norm in the technical level or even in the textile industry especially in safety point of view. However, in the context, fashion wear or accessories in Thailand is very new. Also, how great product can perform in the actual situation is the determinant of usefulness. Is it will help to decrease the accident on the street for the user?

Effort Expectancy is the ease of use toward product function. In other words, how difficult to use and how much effort is required to apply from the existing

method or situation (Francisco & Swanson, 2018). Only on the case for reflective fabric, it has been popularized for technical level due to safety issue. The purpose is to increase the visibility of users and signal co-worker to notice the existence of current users. Therefore, in this study, the reflective fabric still carries its primary function, but on different occasion. Users do not need to be a concern for effort expectancy because the reflective fabric is simple to use and maintain core function as it was. On the comparison, it is not like the use of tablet and personal computer. (Lee, Park, Cho, & Jin, 2018).

Social Influence is described as "the extent to which consumer perceive that important other (e.g., family and friends) believe they should use a particular technology" (Venkatesh, Thong, & Xu, 2012). Social Influence also indicating the likelihood of other that a group of people share their experiences and believe that they should use new technology. (Kessler & Martin, 2017). In other words, social influence is pressure from others who perceive believe and the importance of using a certain technology. Some finding argues that social influence has a significant effect on behavioral intention to use new technology and some finds are vice versa (Lee, Park, Cho, & Jin, 2018). In the context of reflective fabric, there is much usage in safety regulation in the construction site, but not regularly such as outdoor activity.

Facilitating condition "refer to resource and support available to perform a behavior in consumer perception" (Venkatesh, Thong, & Xu, 2012). As earlier, facilitating condition are the crucial last pillar of the UTAUT model. It's a belief that the organization provide facilitation, support and help to use or adapt technology, (Kessler & Martin, 2017). In other words, what are the support which company can provide to facilitate users to use technology with full capacity properly? In this context, the facilitating condition of reflective fabric could help the user to use it in daily life as the outdoor safety and fashion items.

2.2 Mediators

There are two added mediators in UTAUT mode which adding to fit the study. Mediators help to determine the relationship of each variable and behavioral intention. Mediators also carry explanatory power within the model as well.

Concerning safety, safety is one of the basic need. Most of our decision and action are based on sustaining or improving our circumstance. Most of the human activity is driven safety concern to ourselves or our loved one. This also reflects on our decision making as well. For this reason, most the products may sell on the prevention of future harm such as life insurance or safety equipment. Unpredictable incidents may cause any damage and occur at any time. Therefore, some products are selling as pre-caution equipment which in this case, reflective fabric are a sale to prevent any accident in any circumstance in outdoor activity (Komninos , 2017).

Concerning fashion, fashion could express in many ways. For instance, it could be the megaphone of articulation where the word cannot merely describe. It is how we present ourselves. Besides, fashion could tie ourselves connection into clothes. For example, fashion is about collecting beautiful little pieces together over time, or the moment of "Joy" when we wear favorite garments. Fashion is communication that can connect you to others or present ourselves to the world through clothes. All in all, fashion could have various meaning depend on circumstances where and when it is expressed. In this context, fashion would be express as safety equipment with a modern look where it can make the user look beautiful and safe at the same time.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This study used a quantitative research approach to distributing online questionnaires. According to Google Forms, the online survey can provide more accuracy since the respondents enter their answers directly to the system. Besides, its service helped to save time as the researcher can analyze the result from online survey directly by using the online survey tools which enable to show the information in graphs, tables and directly export the result to Microsoft Excel. The last advantage was the convenience for the respondents as most of the people have an Internet-connected through their mobile phone; they can pick any time to complete the questionnaire. Hence, the quantitative research method was implemented because it allows for studying a larger sample than the interview approach, in a limited timeframe.

3.2 Sample, Data Collection, Data measure, and Data treatment

The online questionnaires were randomly distributed with the intended sample size of 400 respondents. The target is people who usually have outdoor activities especially walking, running and biking. To identify the acceptance of reflective fabric as outdoor activities accessories for daily use toward safety and fashion purpose. The questions were asked concerning the technology adaptation of reflective fabric toward the behavioral intention. Author would like to apply IBM SPSS AMOS 21, this software is used to create the Structural Equation Modeling (SEM) which used to analyze structural relationship and quickly test hypothesis, AMOS 21, it can also create the Confirmatory Factor Analysis (CFA) is a theory-testing procedure, for verifying the factor structure that set in advance. It was measured by using 6 points Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree).

Based on the literature reviewed, the author proposes the following hypothesis:

Hypothesis 1: Performance Expectancy on reflective fabric will have a positive effect on Behavioral Intention.

Hypothesis 2: Effort Expectancy on reflective fabric will have a positive effect on Behavioral Intention.

Hypothesis 3: Social Influence on reflective fabric will have a positive effect on Behavioral Intention.

Hypothesis 4: Facilitating Condition on reflective fabric will have a positive effect on Behavioral Intention.

Hypothesis 5: Safety on reflective fabric will have a positive effect on Behavioral Intention.

Hypothesis 6: Fashion on reflective fabric will have a positive effect on Behavioral Intention.

Hypothesis 7: Safety will have positively moderated the relationship between Performance Expectancy and Behavioral Intention.

Hypothesis 8: Safety will have positively moderated the relationship between Effort Expectancy and Behavioral Intention.

Hypothesis 9: Safety will have positively moderated the relationship between Social Influence and Behavioral Intention.

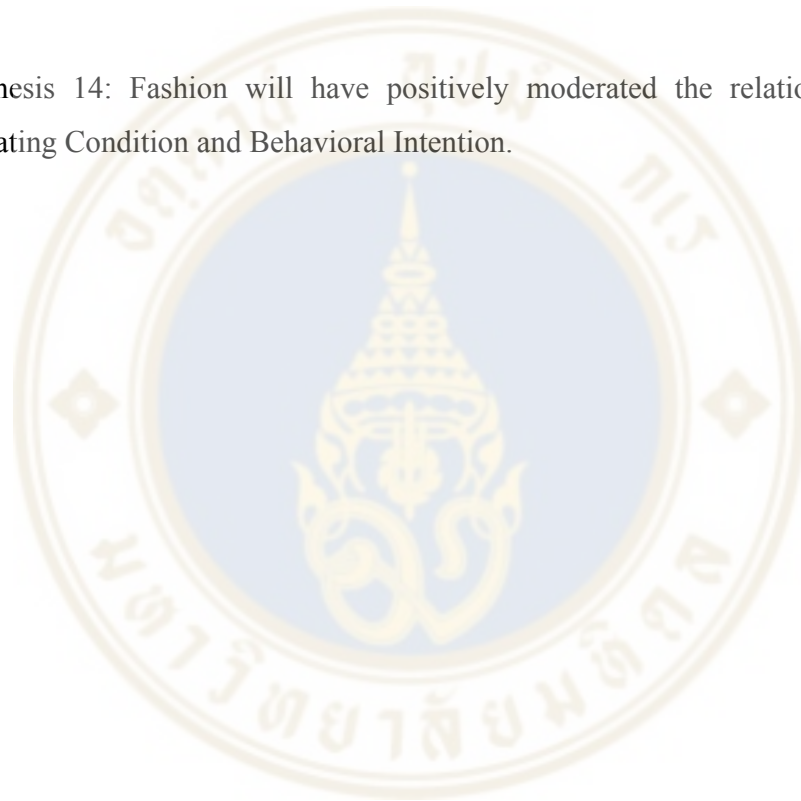
Hypothesis 10: Safety will have positively moderated the relationship between Facilitating Condition and Behavioral Intention.

Hypothesis 11: Fashion will have positively moderated the relationship between Performance Expectancy and Behavioral Intention.

Hypothesis 12: Fashion will have positively moderated the relationship between Effort Expectancy and Behavioral Intention.

Hypothesis 13: Fashion will have positively moderated the relationship between Social Influence and Behavioral Intention.

Hypothesis 14: Fashion will have positively moderated the relationship between Facilitating Condition and Behavioral Intention.



CHAPTER IV

RESULT

The result and data analysis in this study that includes the model interpretation and analysis of The Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM), also the descriptive analysis and hypothesis testing. The model will provide better results and a more reliable of a problem statement and research objective.

4.1 Confirmatory Factor Analysis (CFA)

The Confirmatory Factor Analysis (CFA) is one of the Structural Equation Model (SEM), it is mostly used for social and behavioral researches by using the measurable model to see that the constructs fit or not.

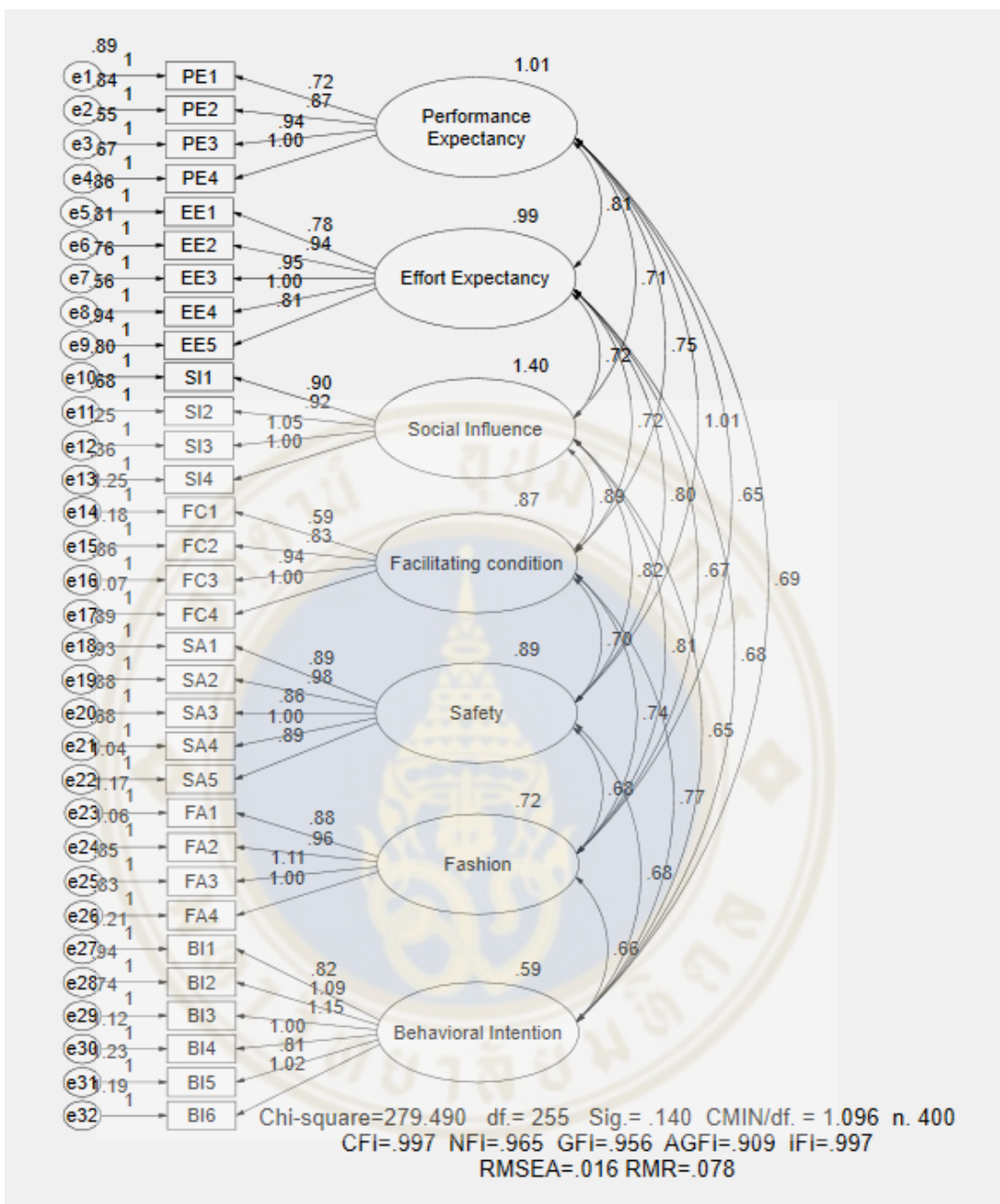


Figure 4.1 The Confirmatory Factor Analysis (CFA)

Table 4.1 Fit indices of proposes model

Fit Index	Recommended Value	Model Value	Remark
Chi-Square (X^2)	p-value > 0.05	0.14	Accept
The goodness of Fit (GFI)	GFI \geq 0.95	0.956	Accept
Comparative Fit Index (CFI)	CFI \geq 0.90	0.997	Accept
Root Mean Square Error of Approximation (RMSEA)	RMSEA < 0.08	0.016	Accept

On table 4.1, the author provides the fit index as the standard value for model fit. It shows that this model is acceptable because the value of the model was higher than the recommended value on the fit index. It is possible to analyze further and interpreted the relationship of the construct.

4.2 Structural Equation Modeling (SEM)

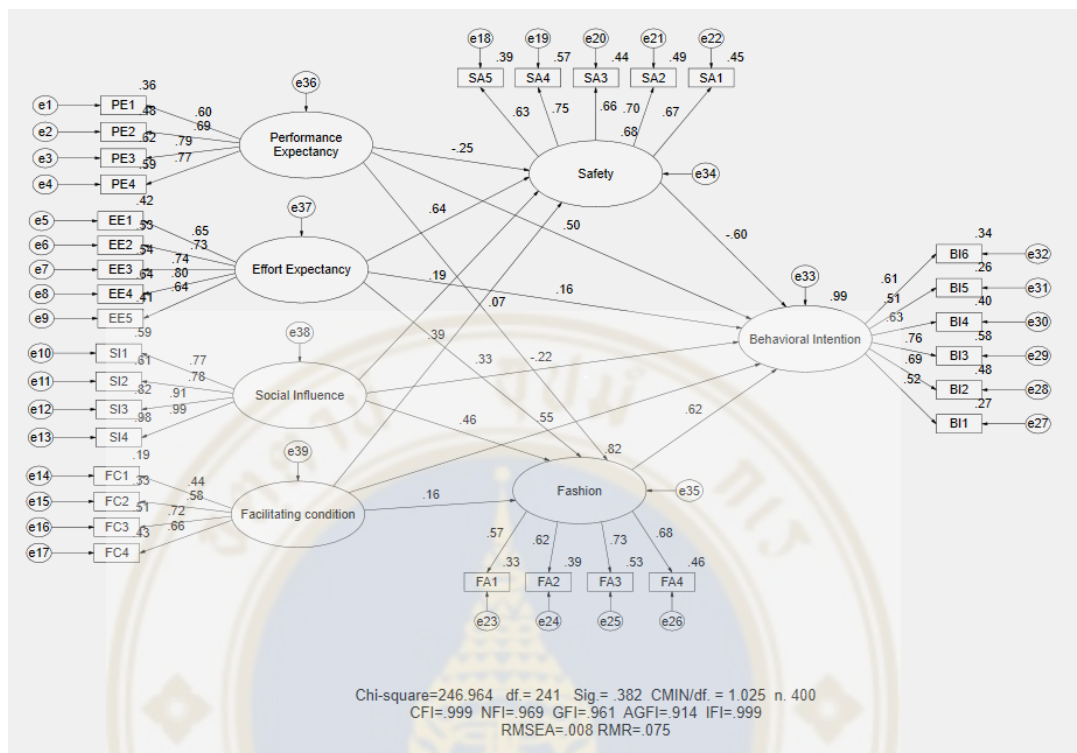


Figure 4.2 The Structural Equation Modeling(SEM)

For hypotheses testing, it shows that nine hypotheses were significant which means the nine hypotheses had a positive effect on each construct that in the sector will provide more details on the result of each hypothesis.

4.3 Summary of findings

The study found that in Safety, Performance Expectancy has a negative effect on Safety. It can interpret that outdoor user doesn't believe that reflective fabric could improve their performance on safety in daily life, so they will not use it. Whereas, a positive relationship was also found between Effort Expectancy, Social Influence, and Facilitating Condition. This study is also confirmed that Social Influence and Facilitating Condition has a significant and positive effect on safety.

Therefore, it might say that if social group accept the reflective fabric in term of security and the reflective fabric has the support and convenient to use as the safety equipment. They will use it.

The study also found that Effort Expectancy and Social influence has a positive effect on Fashion, they may see that reflective fabric quickly adapts or use as the fashion items and could be accepted by the social group once the reflective fabric is on the fashion trend. While Performance Expectancy and Facilitating Condition has a negative impact on Fashion, outdoor users perceive that reflective fabric could not refer as fashion ware but rather as safety equipment and it no need for support for using as a fashion item.

On the contrary, Performance Expectancy and Facilitating Condition have a positive impact on Behavioral Intention. Also, Fashion also has a positive sign of Behavioral Intention. The result could indicate that before outdoor user adapts reflective fabric into their mindset, they consider Performance Expectancy, Effort Expectancy, and Fashion as a main factor.

Addition, Safety also has a significant positive relationship to Behavioral Intention. In another word, Safety could be one factor that might cause behavioral change.

Table 4.2 Estimate – Regression weight (SEM)

			Estimate	S.E.	C.R.	P
Safety	<---	Performance Expectancy	-0.238	0.192	-1.234	0.217
	<---	Effort Expectancy	0.609	0.115	5.298	***
	<---	Social Influence	0.139	0.058	2.395	0.017
	<---	Facilitating condition	0.406	0.170	2.387	0.017
Fashion	<---	Social Influence	0.295	0.059	5.049	***
	<---	Performance Expectancy	0.061	0.083	0.739	0.460
	<---	Effort Expectancy	0.280	0.070	4.005	***
	<---	Facilitating condition	0.145	0.101	1.426	0.154
Behavioral Intention	<---	Performance Expectancy	0.410	0.117	3.498	***
	<---	Effort Expectancy	0.128	0.091	1.411	0.158
	<---	Social Influence	-0.139	0.075	-1.840	0.066
	<---	Facilitating condition	0.497	0.150	3.320	***
	<---	Safety	-0.521	0.161	-3.230	0.001
	<---	Fashion	0.604	0.177	3.411	***

4.4 Descriptive Analysis

Profile Sample

The profile of the sample is to describe the respondent's demographics, who may adapt the reflective fabric to behavioral intention and then strategically focus on those respondents.

The Characteristic of the respondent are summarized in term of

- Gender
- Age
- Occupation

Refer to Table 4.4.2 Descriptive Analysis shows the gender of 400 respondents which 208 are male and 192 are female. The representing 52% and 48%. It showed that male and female are almost nearly equal. Therefore, gender could not be the differentiator of the perspective toward the reflective fabric.

Table 4.3 Descriptive Analysis – Frequencies (Gender)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	208	52.0	52.0	52.0
	Female	192	48.0	48.0	100.0
	Total	400	100.0	100.0	

On the table 4.4.3 Descriptive Analysis shows the age of 400 respondents which six are under 20 years old, 210 are 21-30 years old, 70 are 31-40 years old, 32 are 41-50 years old, and 82 are above 50 years old. The representing 1.5%, 52.5%, 17.5%, 8% and 20.5%. It showed that the largest group of respondents are 21-30 years old then follow by who are above 50 years old. Only these two groups already contribute more than 73% of the total respondent.

Table 4.4 Descriptive Analysis – Frequencies (Age)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20	6	1.5	1.5	1.5
	21-30	210	52.5	52.5	54.0
	31-40	70	17.5	17.5	71.5
	41-50	32	8.0	8.0	79.5
	Above 50	82	20.5	20.5	100.0
	Total	400	100.0	100.0	

On table 4.4.4 Descriptive Analysis shows the occupation of 400 respondents show that 135 are Government officers, 117 are Office workers, and 60 are Self-employed, the rest of respondents are Student, Service industry and others. The Government officer, Office worker and Self-employed represent respondents 33.8%, 29.3%, and 15%. The rest of the respondent 22% respectively. The smallest group are those who are IT industry, 1.5 % out of total respondent.

Table 4.5 Descriptive Analysis – Frequencies (Occupation)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	59	14.8	14.8	14.8
	Office Worker	117	29.3	29.3	44.0
	Service Industry	7	1.8	1.8	45.8
	Government Officer	135	33.8	33.8	79.5
	Self-employed	60	15.0	15.0	94.5
	IT Industry	6	1.5	1.5	96.0
	Others	16	4.0	4.0	100.0
	Total	400	100.0	100.0	

On the table, 4.4.5 Descriptive Analysis show the data of 400 respondents who typically take the cloths with them which 228 don't make clothes with them and others 172 take clothes with them. Therefore, more than half of them tend to do outdoor activities after work by changing clothes after work and others tend to go back home and to change clothes to do outdoor activities.

Table 4.6 Descriptive Analysis – Frequencies (Take cloths)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	228	57.0	57.0	57.0
	Yes	172	43.0	43.0	100.0
	Total	400	100.0	100.0	

On the table, 4.4.6 Descriptive Analysis shows the data of time when the respondents usually do outdoor activities. The largest of respondents are 295 do outdoor activities in the evening, 42 are in the morning, 39 are at night, and 24 are

other times. The representing 73.8%, 10.5%, 9.8% and 6%. Therefore, most of them prefer to do outdoor activities in the evening, after work or school and at the time is not under the sunlight or sunshine.

Table 4.7 Descriptive Analysis – Frequencies (Time)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Morning	42	10.5	10.5	10.5
	Noon	8	2.0	2.0	12.5
	Afternoon	16	4.0	4.0	16.5
	Evening	295	73.8	73.8	90.3
	At night	39	9.8	9.8	100.0
	Total	400	100.0	100.0	

On the table 4.4.7 Multiple responses of outdoor activities, it shows that 400 respondents prefer walking, running, biking, swimming, and others respectively. The representing 36.1%, 26%, 13.4%, 11.4%, and others 13.1% are trekking, aerobic and other outdoor activities such as playing golf, football, badminton. Therefore, most of the respondents who do outdoor activities tend to do activities that are efficiently doing and no need to use the equipment to do those outdoor activities.

Table 4.8 Multiple responses – Frequencies (Outdoor Activities)

		Responses		Percent of Cases
		N	Percent	
Outdoor Activities	Walking	294	36.1%	73.5%
	Running	212	26.0%	53.0%
	Biking	109	13.4%	27.3%
	Trekking	55	6.7%	13.8%
	Swim	93	11.4%	23.3%
	Aerobic	30	3.7%	7.5%
	Others	22	2.7%	5.5%
Total		815	100.0%	203.8%

On the table 4.4.8 Multiple responses of place to do outdoor activities, the 400 respondents like to do the outdoor activity at the park, road, sports field, shopping mall, and others respectively. The representing 35.6%, 16.6%, 16%, 11.4%, and others 20.4% are the workplace, outdoor fitness, and others, for example, at home, the national park. Therefore, the place where the respondents like to do outdoor activities at the park which refer that they tend to prefer the relaxing and nature, and those who prefer to do exercises on the road tend to prefer the convenience or those outdoor activities may need a route for doing that activity such as running and biking.

Table 4.9 Multiple responses – Frequencies (Place to do outdoor activities)

		Responses		Percent of Cases
		N	Percent	
Place ^a	Park	265	35.6%	66.3%
	Road	124	16.6%	31.0%
	Mall	85	11.4%	21.3%
	Workplace	64	8.6%	16.0%
	OutFitness	52	7.0%	13.0%
	SportField	119	16.0%	29.8%
	Others	36	4.8%	9.0%
Total		745	100.0%	186.3%

On the table, 4.4.9 Multiple responses of the basic function of clothing show that most of the respondents think the basic function of clothing is for protection, modesty, and identification respectively. The representing 34.6%, 25.1%, 22.5%, and others 17.5% are status, professional and others. Therefore, in the perception of the respondents, they would like cloths which could protect the body, modesty as appropriate and identification to show their styles.

Table 4.10 Multiple responses – Frequencies (the Basic function of clothing)

		Responses		Percent of Cases
		N	Percent	
BasicF ^a	Protection	306	34.6%	76.5%
	Modesty	222	25.1%	55.5%
	Identification	199	22.5%	49.8%
	Status	70	7.9%	17.5%
	Professional	75	8.5%	18.8%
	Others	13	1.5%	3.3%
Total		885	100.0%	221.3%

On the table, 4.4.10 Multiple responses of an additional function of clothing show that the respondents more likely to have the additional function which are can be used for any occasion, safety, and transformable clothing respectively. The representing are 40.3%, 34.3% and 24.8% and other 0.6% those who don't want to have an additional function. Therefore, the reflective fabric may able to use on any occasion and also provide safety to who wear it.

Table 4.11 Multiple responses – Frequencies (Additional function of clothing)

	Responses		Percent of Cases
	N	Percent	
AddF ^a Safety	230	34.3%	57.5%
ManyOccasions	270	40.3%	67.5%
Transformable	166	24.8%	41.5%
Others	4	.6%	1.0%
Total	670	100.0%	167.5%

CHAPTER V

CONCLUSION & RECOMMENDATION

5.1 Conclusion

As per research objective to find the attribute influence Thai outdoor user apply reflective fabrics for safety purpose. There are 3 out of 4 factors were tested. The result shows that "Effort Expectancy" which Thai outdoor user perceived reflective fabric is easy to use for safety purpose. Some safety technology equipment needs time to learn how to use it. However, the easy use of reflective fabric does not need knowledge or how to use it. "Social Influence", Thai outdoor user will use reflective fabric for safety purpose when the social group influences them. "Facilitating Condition," the convenience to use and to buy effect to increase usage of the reflective fabric for safety purpose. Moreover, Safety had a significant positive impact on Behavioral Intention. It could be assumed that safety is one of the keys that influences Thai outdoor user to use reflective fabric for safety purpose.

The attribute influence Thai outdoor user apply reflective fabrics for fashion purpose. There are 2 out of 4 factors were tested. The result shows the "Effort Expectancy," it means the reflective fabric is easily adapt as fashion items, they will use it and "Social Influence," the social group able to influence Thai outdoor user to use reflective fabric as fashion items. So, Fashion had a significant positive impact on Behavioral Intention. It could be assumed that fashion is the key to influence Thai consumer to adapt reflective fabric for fashion purpose.

Thai outdoor user may change behavioral intention for reflective fabric when they perceive the value of the Performance Expectancy that could deliver the performance of reflective fabric as they expected, but it also has Facilitating Condition that provides the support or help when they use the reflective fabric. Furthermore, Safety and Fashion are also the attributes for behavioral intention, once they find the reflective fabric is used for safety and fashion purpose they might use it.

5.2 Recommendation

According to the research, the author found that outdoor user who like to do outdoor activities (running, walking, biking, etc.). They are the potential group to use the reflective fabric for safety and fashion purpose. Mostly the outdoor user spends their time for outdoor activities in the morning, evening and at night when there is no sunlight and almost dark. Besides, places where they usually go to do outdoor activities are at the park and on the road which easily gets harmed by accident. Therefore, to set the target group may use the "lifestyle" for people who is healthy people and concern for safety but also need the accessories which are fashionable for them. It would be rather than set target by Gender, Age and Occupation.

The author recommended that the target has to be the "Healthy Innovator" who perceived value and accept that reflective fabric could be used not only for the safety purpose but also use as the fashion items. Furthermore, Innovator may the first group that accepts the reflective fabric for safety and fashion purpose, who perceived the value of the performance of reflective fabric that it's useful in daily life. Nevertheless, Facilitating Condition also had significant with Behavioral Intention. The Innovator may need support and help when they use reflective fabric. According to the study, the Effort Expectancy that was significant to Safety and Fashion, it can say that reflective fabric is easy to use and adapt by the innovator.

Moreover, Social Influence also had a positive effect on Safety and Fashion. If the innovator could use the reflective fabric, it might influence other groups to follow them. Although the innovator has about 2.5%, the innovator may have the power to influence other groups that is "Early adaptors" and "Early majority" that is 13.5% and 34%.

Therefore, the communication may be the main point to make innovator accept and adopt the reflective fabric. The business could use the communication by "Influencer reviewers," for example, healthy bloggers. Or "advertising" product and show the benefit and value to make the innovator believes that reflective fabric could be more than what it is now that only be used in industrial site for only safety purpose but it can use for safety at outdoor activities items and can be used for fashion items.

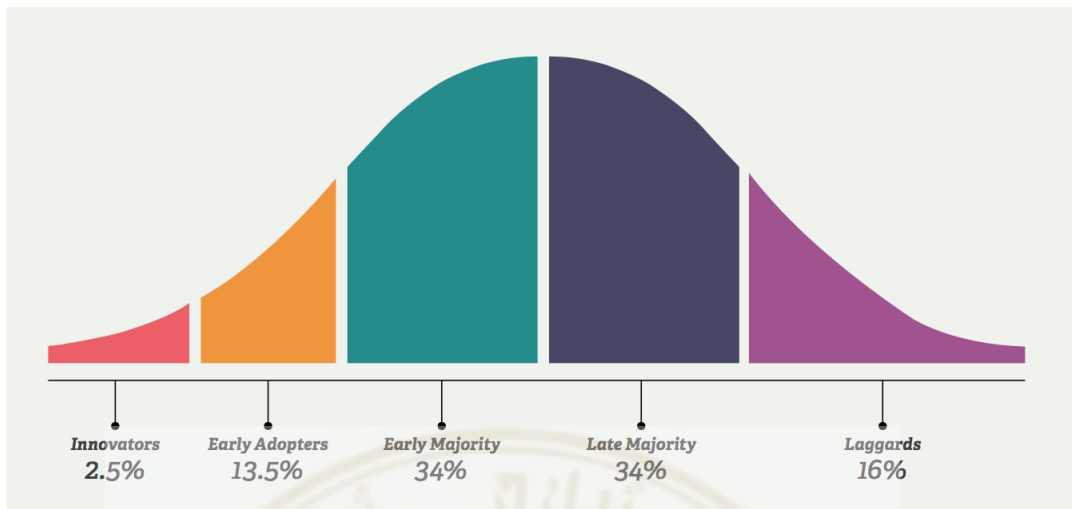


Figure 5.1 Innovation Adoption Lifecycle

The definition of the reflective products is that the product is comprised of a reflective fabric that makes us more visible in low light condition. It can reflect light from car headlight and streetlight which can increase safety in the dark.

The business that would like to do the reflective fabric as safety and outdoor fashion items have to concern about the design for the reflective fabric products according to the data analysis; it has to be a safe, fashionable and additional function that can be used in many occasions.

However, fashion is come and gone very soon, once the target group perceived the reflective as a safety item. It might be last longer than a fashion item. Fashion is changing all the time, but it can attract people to use it, the business may have to concern the "Fashion Circle" and need to develop a product that mixing between safety and fashion and it can be used in many occasion or transformable.

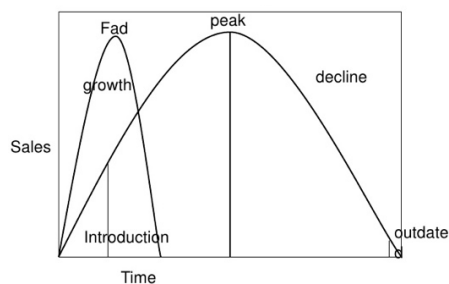


Figure 5.2 Fashion Cycle

For example, a reflective jacket, Professor Joanne Wood of the University of Technology in Queensland leads a research team to study cycling visibility and reflective clothing. The finding recommends reflective clothing when they want to maximize safety at night. The jacket can be used for outdoor activities such as biking and running in the dark and it also for another occasion such as traveling or going outside.



Figure 5.3 Reflective jacket

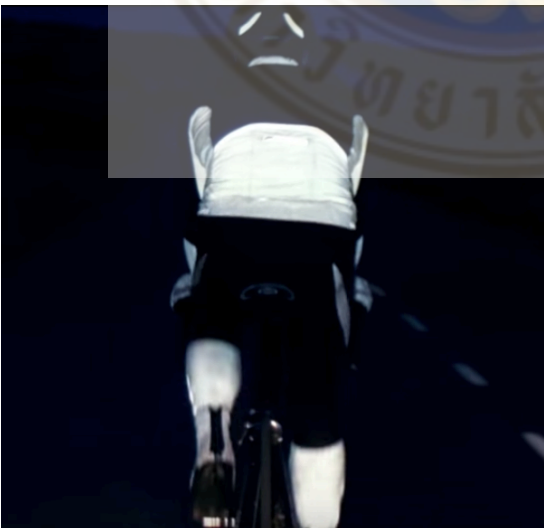


Figure 5.4 Reflective jacket

Some brand names use reflective material as the fashion item; for example, Reebok sneaker shoes that can be utilized for doing outdoor activities. Balenciaga, the luxury brand also use reflective material for shoes.



Figure 5.5 Reebok reflective shoes



Figure 5.6 Balenciaga reflective shoes

In conclusion, the top three attribute that significant to the Behavioral Intention is Performance Expectancy, Facilitating Condition, and Fashion. The business has to consider this attribute and provide the products that meet customer needs. The reflective products have to perform value and benefit to the user such as increasing safety or other interests. It has to have support from the business by educating or helping the user. Reflective products may have to be fashionable with design and could be used in many occasions. They could release the product in collection that the author mentioned, fashion always changes, stick with one product

maybe not a right choice it may have to expand product line items that can be used in many occasions.

5.3 Research Limitation

This study had only focused on the conceptual framework that adapts from UTAUT model, and there are two mediators which are Safety and Fashion to see the relationship between the main four factors that is Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Condition. Even though there were some of the factors have the positive effect to Behavioral Intention but there are more mediators to consider, and this conceptual framework did not find some other factors which have in the original model of UTAUT. For further research, it may use the UTAUT2 that is the developed model from UTAUT that is more complex and could have a result with more accuracy and reliability.

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Appendix A Questionnaire

Introduction

I am a master degree student from The College of Management, Mahidol University. I would like to collect the information from the outdoor user in perspective of willingness to use reflective fabric when doing activities as part of Thematic Paper. So, I need your opinion to ensure incorporate with your product positioning direction.

This questionnaire will take less than 10 minutes to complete. Your participation is very appreciated.

Screening Question

1. Do you do outdoor activities?) (For example, outdoor exercise or walking etc.)
 - Yes No (Thank you for your time)
2. What outdoor activity do you prefer? (Can select more than 1 answer)
 - Walking Running
 - Biking Trekking
 - Swimming Aerobic
 - Others
3. How often do you do outdoor activities?
 - Less than one per week
 - Once per week
 - 2-3 per week
 - 4-5 per week
 - More than 5 per week
4. Where is the place do you usually do outdoor activities? (Please select only 1)
 - Public Park
 - Road
 - Shopping Mall
 - Workplace
 - Outdoor fitness

- Stadium or sport field
- Other (please specify).....

5. Do you normally take the cloths with you? For example biking for work and take the cloths to change at the work place or take the cloths to change for other outdoor activities?

- Yes No

6. In your opinion, what is the basic function of clothing? (Can select more than 1)

- Protection
- Modesty
- Identification
- Status
- Professional
- Other

7. What additional functions of clothing do you think it should have?) (Can select more than 1)

- Safety
- Many occasions
- Transformable cloths i.e. color, design
- Others

Specific Questions

Please specify the level of your agreement on the following statement:
 (Assessment scale: 1=Strongly Disagree, 2=Slightly Disagree, 3=Disagree, 4=Agree
 5=Slightly Agree, 6=Strongly Agree)

No.		Strongly disagree 1	Slightly disagree 2	Disagree 3	Agree 4	Slightly agree 5	Strongly agree 6
Performance expectancy							
5	I would find the reflective fabric useful in my activity.						
6	Using the reflective fabric enables me to be spotted on the street.						
7	Using the reflective fabric increases my safety.						
8	If I use reflective fabric, I will decrease my chances of getting an accident.						
Effort expectancy							
9	My interaction with reflective fabric would be easy and simple.						

10	It would be easy for me to become familiar at using reflective fabric.						
11	I would find reflective fabric easy to use.						
12	I do not need to learn anything in order to use reflective fabric.						
Social influence							
13	People who influence my behavior think that I should use reflective fabric.						
14	People who are important to me think that I should use reflective fabric.						
15	My friend and family have been encouraged to use reflective fabric when I am out for any outdoor activity.						
16	In general, the government						

	organization should support the use of reflective fabric for safety.						
Facilitating conditions							
17	I have the resources to buy the reflective fabric.						
18	I have the knowledge necessary to use the reflective fabric.						
19	The reflective fabric is compatible with other safety exercise equipment I use.						
20	A specific person (or group) is available for assistance with reflective fabric issue.						
Behavioral intention							
21	I will use the reflective fabric on a regular basis						

	in the future.						
22	I will frequently use the reflective fabric in the future.						
23	I will strongly recommend others to use the reflective fabric.						
24	Assuming I have own to the reflective fabric, I intend to use it.						
Safety							
25	I perceive reflective fabric as safety equipment.						
26	I prefer to ware reflective fabric as pre-caution for my outdoor activity.						
27	Reflective fabric would help me to be spotted by other include car.						

28	Reflective fabric could prevent item lost.						
Fashion							
29	I am look fashionable when I am ware reflective fabric.						
30	Reflective fabric helps to improve my style.						
31	Reflective fabric is a must have item.						
32	I would prefer to ware reflective fabric in any occasion.						
33	I prefer to wear a cloths that give me more functions.						
34	I would like to wear a cloths that can be used than cover my body						

Demographic Questions

35. Gender

Male Female

36. Age

- Under 20 years
- 21–30 years
- 31-40 years
- 41- 50years
- Above 50 years

37. Occupation

- Student
- Agriculture
- Officer Worker
- Service industry
- Government Officer
- State Enterprise Officer
- Self-employed
- Manufacturing industry
- IT industry
- Others

