

# Solution when Parting with my Dear Flash: Identifying Causes and Uncertainty Reduction Strategies สาเหตุและกลยุทธ์การแก้ปัญหาความรู้สึกไม่แน่นอน จากการสิ้นสุดของโปรแกรมแฟลช

Proud Arunrangsiwed  
พรอ อรุณรังสีเวช

## Abstract

The current article contributed the knowledge to uncertainty reduction theory (URT), anxiety-uncertainty management (AUM), and Burke's theory of identification. This helps identify causes of uncertainty and additional uncertainty reduction strategies hidden in research studies in other fields. This article also includes author's experience facing uncertainty regarding losing a part of professional skill and identity. Four strategies found during the uncertain period are (1) direct replacing, (2) perfectly escaping, (3) circumstance realizing, and (4) alternative replacing. The future research should explore uncertainty reduction in various contexts, and should also find the way to use uncertainty positively in learning environment.

**Keywords:** *Uncertainty Reduction Strategies, Information Seeking, Adobe Flash, Identity*

## บทคัดย่อ

บทความนี้เขียนขึ้นเพื่อต่อยอดความรู้ของทฤษฎีการลดความไม่แน่นอน การจัดการความกังวลและความไม่แน่นอน และทฤษฎีความเป็นตัวตนของเบิร์ค ทั้งนี้เพื่อช่วยบอกถึงสาเหตุของความไม่แน่นอนและวิธีแก้ไข ซึ่งรวบรวมมาจากงานวิจัยในด้านอื่นๆ บทความนี้ยังกล่าวถึงประสบการณ์ของผู้เขียนที่เคยรู้สึกไม่แน่นอนเมื่อพบว่าตนสูญเสียทักษะในการประกอบอาชีพและความเป็นตัวตน กลยุทธ์ที่ผู้เขียนค้นพบระหว่างเกิดความไม่แน่นอน คือ (1) การแทนที่โดยตรง (2) หนี (3) การเข้าใจเหตุการณ์ และ (4) การแทนที่โดยใช้สิ่งที่เทียบเท่า งานวิจัยในอนาคต ควรศึกษาการลดความไม่แน่นอนในบริบทอื่นๆ และควรคิดค้นหาการนำความไม่แน่นอนมาใช้ในเชิงสร้างสรรค์ เช่น การกระตุ้นการเรียนรู้

**คำสำคัญ:** *กลยุทธ์การลดความรู้สึกไม่แน่นอน การหาข้อมูล อะโดบีแฟลช ความเป็นตัวตน*

## Introduction

The original uncertainty reduction theory (URT) has been identified since last four decades. Berger and Calabrese (1975) established this theory to explain the uncertainty during initial interaction between people. In their context, initial interpersonal interaction, three uncertainty reduction strategies were named, which are passive strategy, active strategy, and interactive strategy (Berger & Calabrese, 1975; Berger, Gardner, Parks, Schulman, & Miller, 1976). When people feel uncertainty toward a target, they need to seek for the information related to the target. These three strategies work differently when they were tested with different targets; friends, romantic partner, and people with other position (Gudykunst, Yang, & Nishada, 1985). After the computer-mediated communication era, Ramirez, Walther, Burgoon, and Sunnafrank (2002) founded an additional strategy, extractive strategy. The extractive strategy is the way internet users seek for the information through the websites or social profiles related to the targets. Uncertainty reduction is not limited to only these four strategies. The current article aims to describe uncertainty reduction strategies used in different context, such as the author's experience on termination of psychological dilemma and other research studies in business-related problem.

Without naming URT in the research articles, it was found that many studies were conducted to decrease the level of uncertainty in their professional areas. In the case of farmers in Thailand, they should be able to earn a certain income (Khuntaweetep, 2015). Educational personal should have securities in both their careers and lives (Rugchatjaroen, 2015). Regarding an area of business, many researchers provided recommendation for economic stability, such as diminishing the corruption in the organization (Wonglimpiyarat, 2015), writing a business plan (Promsri, 2015), and avoiding negative return (Hongjanya, 2015). Economic

stability is considered as the opposite of uncertainty. Entrepreneurs could increase their economic stability by reducing customers' negative attitudes toward the organizations (Jaroenwanit & Chueabunkoet Noth, 2015), and strengthen the relationships with the customers (Jaima & Pathomsirikul, 2016).

The researchers in media study have prepared for future problems. They advised the way to produce an appropriate media and the way to increase media literacy skills in young children (Arunrangsiwed & Pasomsat, 2016; Thongthiang, 2015; Vantamay, 2014). If these suggestions were effectively used, the next generation should be able to support the society, economy, and environment with their prosocial thoughts (Greitemeyer, 2011; Hogan, 2012), and positive traits (Saleem, Anderson, & Gentile, 2012). This could be the way to make a certain future of the world. In the area of social science and humanity, uncertainty could occur when people are facing dilemma, including real-world intervention (DeScioli & Kurzban, 2013), losing a romantic partner (Tong, 2013), and consuming unsafe food (Van Wezemael, Verbeke, Kügler, de Barcellos, & Grunert, 2010). The next section would introduce the negative result of uncertainty followed by the solution.

## Negative Effect of Uncertainty

Early research study found that intolerance of uncertainty is an enable predictor of trait worry (Dugas, Freeston, & Ladouceur, 1997). A higher level of worry may lead to anxiety disorder. In later studies, intolerance of uncertainty could result in both anxiety and depression (Carleton et al., 2012; McEvoy & Mahoney, 2012; Yook, Kim, Suh, & Lee, 2010). Comparing between these two negative results of uncertainty, intolerance of uncertainty has more influence on worry than on depression (Dugas, Schwartz, & Francis, 2004). Also, anxiety could work as the mediator between uncertainty and depression (Liao & Wei, 2011). Kang (2005) found that the level of uncertainty does not only affect the level of anxiety

and depression, but also causes a low psychological well-being. Sexual identity uncertainty could affect a poor psychological well-being, too (Morandini, Blaszczynski, Ross, Costa, & Dar-Nimrod, 2015). Since uncertainty cause various negative effects, it is important to identify the way to reduce the level of uncertainty.

### **Increasing Information and Decreasing Uncertainty**

Traditionally, it was known that people with uncertainty would seek for information to escape from their uncertainty. In social networks where facial expression is impossible, asking question (Antheunis, Schouten, Valkenburg, & Peter, 2012) and sending emoticon or sticker (Pairoa & Arunrangsiwed, 2016) are the way to reduce uncertainty. Some people reduce their uncertainty by looking at “About me” tab in their friends’ Facebook profile to gain more information (Tong, 2013). How social network users disclose their personal information and social activities on their profiles could be a way to maintain a good relationship with their friends (Magpanthong & McDaniel, 2015). The information disclosure on social network profile can help reduce the level of uncertainty among people around the particular user. People who face uncertainty from losing a romantic partner often monitor one’s past partner via social network profile to see one’s recent activities and to see if one might have a new partner. This could be called internet-based information seeking (Tong, 2013).

Similarly, when there is a change in the organization, employees are unable to predict the situation, because of the lack of information. This could cause uncertainty among the employees (Roundy, 2009). The company director should help the employees to better understand the culture of organization and provide the related information they need. This way would lead to a more effective work performance (Saengsri, 2015). It could imply

that sufficient information and an available database would help support the business (Phromket & Vichasilp, 2015). The organization may consider disclosing their accounting information to their stakeholders, since it might have a positive impact on corporate reputation (Wangcharoendate, 2015). Just as the adequate information about the organization helps decrease the level of uncertainty among the stakeholders, so, to help the industry as a whole, a government institute should provide information and knowledge to support the business for expanding the market (Tripopsakul, 2015).

### **Perceived Insecurity and Identification Theory**

In the working environment, perceived culture, history, and value difference among employees could bring about the internal conflict, which the organization operator should immediately solve (Luekitinan & Nontakaew Farri, 2015). Culture and language differences are also the causes of uncertainty among couchsurfers and their host (Santos, 2014). Perceived lack of security can cause uncertainty not only in real world, but also in virtual world (Gibbs, Ellison, & Lai, 2011). Cyberbullying can also lead to lack of security in bullied users (Dilmaç & Aydoğlan, 2010). On the other hand, perceived security is a way to reduce the level of uncertainty and the way to heighten psychological well-being, self-esteem, and positive thinking (Poopieumsinth & Chenaksara, 2015). Therefore, this article suggests that identification could make people feel more secure and reduce their uncertainty based on the perception of insecurity.

Identification theory can be used to describe how people identify with something, such as their friends, fictional characters, or brand mascots. Perceived similarity is one of the most influential variables that makes people identify with one another and with fictional characters in media (Hearold, 1986; Mongkolprasit & Arunrangsiwed, 2016). Perceived attitude and culture similarity can

reduce the level of uncertainty in initial interaction (Antheunis, Valkenburg, & Peter, 2010; Gudykunst & Nishida, 1984). Generally, if people travel to a new place alone, they will easily feel uncertainty. In contrast, if they travel with their friends, they will identify with their friends who have similar backgrounds, and they will have less uncertainty.

### **Other Uncertainty Reduction Strategies**

Uncertainty could be established based on life instability, including physical health, mental health, and career instability. A better conflict or crisis management can help the organization and its employees to pass through the crisis faster. Business operators and employees may use compromising and avoiding strategies to quickly quit the conflict phases (Darawong, 2016). Social networking supports the flow of information in group communication (Liwjaroen, 2016). With a better flow of information, both conflict and the level of uncertainty would be reduced. Trust is also another factor that helps people escape from an uncertain stage and anxiety regarding lack of security (Van Wezemael et al., 2010). The low level of trust could result in lack of cooperating among business operator and employees (Pomsuwan, 2015), leading to low-flow of information and uncertainty in the organization. Based on this situation, employees might face anxiety, because of lack of information and the complexity of their jobs (Taweephol, Apichonekasin, Saenkammuen, & Tangjitsomran, 2015).

In some situation, people may prejudice in a positive way to reduce the level of uncertainty (Lind & Van den Bos, 2002; Takeuchi, Chen, & Cheung, 2012). Second, religion and faith could help people step beyond the uncertain moment (Santos, 2014). Religion does not only encourage people to move themselves through a hard situation, but also help them to understand the situation better. Another strategy found in previous studies is how internet users with trait shyness could avoid the anxiety

regarding face-to-face communication by using text-based communication (Antheunis et al., 2012).

### **Author's Experience Facing Uncertainty**

The following narrative centers on the author's past experience beginning at late 2015, where Adobe Systems Incorporated announced that they would no more release the next version of Adobe Flash. Another event that causes uncertainty in the author was also used for the comparison.

#### **1) Prior Identity Development Process**

While the author was in high school, she dreamed to become a web designer. The author sent herself to learn how to use Flash and its programming language, ActionScript, in a short course. During that period, Flash was the computer program for creating an interactive website, game, and animation. Later, the author completed a Master's degree of Interactive and Digital Media. The final projects of each semester were created based on Flash and ActionScript. The author learned how to involve other features into her projects, such as XML language, API, and animation software package. With this academic degree and the experience working in all course projects, the author together with her master degree classmates had founded a Facebook group to advice people in ActionScript. Later, she has become an animation and web design lecturer. Her part time job was web design, banner design, and e-card design.

Burke (1969) had identified three types of identification, which were formed by different causes. Firstly, material identification is brought from tangible objects, such as a sport-team t-shirt. Secondly, formal identification is affected by the format of an event or situation, such as attending a rock live show. Thirdly, idealistic identification is established by the similar value of the group, such as pride of being a fan of an authentic rock band (Littlejohn & Foss, 2011). How the author has design ability, experience, and skill on using Flash, does not fit into the causes of these three types of identification. With the similar

skills and knowledge, the author identified with her colleagues, and also identified with Flash. Flash had been similar to a part of body used to create an outcome, such as website or game. It could be called, a product of self-esteem. This type of identification should be named, “skill identification.”

## 2) Losing a Professional Identity and Professional Skill

By late 2015, after the author was informed that Adobe Systems Incorporated would launch Adobe Animate instead of Flash, she perceived insecurity from losing leisure activities, ability to work in part time job, and academic subjects to teach. Based on URT and anxiety-uncertainty management (AUM), the information seeking process was started. Many bloggers reviewed that Adobe Animate could be used to create 2D animation in the same way as Flash did, but it does not support ActionScript 3, the hardest part of using Flash that the author spent several years to learn. JavaScript become the programming language of the new software. Although the syntax of ActionScript is similar to JavaScript, the author still needed a lot more work to be an expert on the new language. If the author needed to continue her profession with writing JavaScript, she has to take a long time to develop her skill and seek for more knowledge of how to use it.

## 3) Uncertainty Reduction Strategies

Four uncertainty reduction strategies were found during the suffering phase. Some of them have been mentioned in previous studies, while some were firstly identified in the current paper. These strategies would be listed based on the actual timeline.

*3.1 Direct Replacing:* After the author found that JavaScript would be used in Adobe Animate, she might make a decision to be an expert in this new computer program. This way, she has to seek for more information to have a certain level of

knowledge of how to write the JavaScript language. This implies that information or knowledge of writing JavaScript might help the author reduce the level of uncertainty. Direct replacing describes how the author used another similar object to replace the missing one. This strategy might have been discussed previously in a music fan study. Music fans of a rock band, Afterhours, faced the situation of identity uncertainty when their favorite band joined the same stage with general popular bands. First, their fans felt that they lost an authentic identity, but later, they replaced their missing identity by starting a new argument that Afterhours was even more authentic when they showed their musical talent to the public (Corciolani, 2014).

*3.2 Perfectly Escaping:* After being acknowledged of the announcement of Adobe Systems Incorporated, the author knew that her favorite program and the related platform would be dying slowly. Her ability to use the program would have no meaning to the world in the near future. The author thought to stop creating things on computer and move herself to do something else. However, the author did not follow this strategy. Perfectly escaping could not be found in early studies regarding this area, but it is somehow similar to “escape to freedom” of cosplay practitioners, who dress like cartoon characters and join fan community to temporarily escape from a stressful daily work (Bonnichsen, 2011). This fan practice is one way to escape from unpleased experiences, but it is not to escape perfectly, though.

*3.3 Circumstance Realizing:* To understand the overall situations around the event is not only a way to reduce uncertainty, but also to move away from anxiety. Without anxiety, it allows the author to think about a better plan for the future. The author went to listen to the preach of a Buddhist monk, Krit Nimmalo. In fact, the author expected to make the process of ‘perfectly escape’ to be easier. Unpredictably, the author discovered another

strategy to reduce the uncertainty, which is ‘circumstance realizing.’ Losing a professional skill does not mean to lose all professional skills. As long as a person is alive and his brain is still operating, he could learn a new thing. Losing one skill does not hurt in the same way as losing all skills. This strategy helped the author move to the next strategy, alternative replacing. As mentioned earlier, religion belief is a way to reduce uncertainty (Santos, 2014), and in this case, uncertainty reduction is not just caused by a belief or faith, but by the way people make sense of problems in their life.

*3.4 Alternative Replacing:* Alternative replacing is how the author sought for a comparable object to replace the missing one. After losing an identity as Flash developer, the author has to find something to replace it. If the replacing process is fast and easy, that would benefit the author to quickly reduce her uncertainty, anxiety, and depression. She decided to learn more about Autodesk 3Ds Max, of which she initially had a moderate skill. After she has developed a higher skill on 3Ds Max, her uncertainty is completely gone. Alternative replacing could be found in digital media research regarding psychology field, that people with loneliness could join online community in order to fulfill their missing interpersonal relationship (Cotten, Anderson, & McCullough, 2013). For instance, people in Emo subculture found themselves accepted in emo community, while, they might be rejected in the real world (Strauss, 2012) and some are also the victims of bullying (Hill, 2011).

#### 4) After the Resolution

After uncertainty, anxiety, and problem-solving phases, the author always stated to her students that the ability to design is more important than the ability to use computer software. The ability

to design is applicable whenever the students use any computer program. Teaching various computer programs in one course also helps the students not to stick with one particular program, and helps solving the problem that teachers are not aware of all computer programs used in a organization where their students would work in the future.

Late 2016, Adobe Animate was installed in some machines in the organization where the author works. Unlike the prior announcement of Adobe Systems Incorporated that had previously shocked the author, the programming language, ActionScript, was found as the secondary language of the software, while the main type of document is HTML5 Canvas with JavaScript as the primary language. After being informed by this, it does not affect any attitude of the author, since her suffering phase taught her that the stability of technology has never existed.

#### 5) Comparing with Uncertainty in Researcher Career

Approximately the same time, the authors’ seven conference papers written in 2016 were not valid to be used for performance evaluation and application for assistant professorship. It is because the academic conference organizer was added into the black list. Unexpectedly, the Flash event brought additional negative emotional impact on the author than this event did. Identification theory could help describe the different levels of negative emotional impact. The author has so far identified with other researchers and lecturers in the same organization, and more than half of faculty members attended these conferences. When many people with the similar identity share the similar feeling toward the same problem, the level of uncertainty and anxiety is lower.

## Suggestion

During the process of moving away from uncertainty, the author had intensively learned new things. The article suggests that the teachers and lecturers put the students into the uncertain stage to motivate them to learn, such as using negative compliance gaining strategies (Marwell & Schmitt, 1967; Saeng-on, 2014). However, teachers should be aware of a high level of students' uncertainty, since it could cause an anxiety disorder and depression. For the organization, a good cooperation, leadership, and good database or information management would help establish an ideal learning organization (Muangsong, Chamnankit, & Insombat, 2015). To insert a small amount of uncertainty in the development process might help the organization reform itself faster. In the copyrights-related issue, uncertainty and anxiety could prevent people from buying counterfeit products for fear of the publicly-announced legal penalty (Lekprayura, 2015). The future study should identify both uncertainty reduction strategies and the positive strategies of using uncertainty in various contexts.

Based on the root of this article, the prior problem was caused by an unavoidable technology change. Generally, previous studies mentioned "digital divide," as a prominent problem regarding this issue. The current article provides another aspect to contribute to the knowledge in this area, which is to link such this situation to URT and identification theory. Researchers of future studies should test the given uncertainty reduction strategies in the real-world context by using a quantitative approach in order to be able to generalize the findings. Additionally, they should not limit URT only to interpersonal communication, but also to intrapersonal communication.

## Conclusion

Based on the author's experiences, the findings, and suggestions of previous studies, the causes of uncertainty are as followings:

1) *Insufficient information* may occur in an initial communication between people (Berger & Calabrese, 1975), complexity of job (Taweephol et al., 2015), and unpredictable future. Unpredictable future could be perceived during dilemma, crisis, and other kinds of conflict.

2) *Losing meaningful objects* that may involve tangible objects such as a cell phone or laptop. In this article, the author has lost her identity, skill identification, and idealistic identification, the term of which was originally identified by Burke (1969).

3) *Perceived insecurity* could be caused by the first two given factors, insufficient information and losing meaningful objects. It might be able to perform as a mediator between the first two factors and uncertainty. If this model was tested, it would help suggest the practitioners to arrange an intervention to reduce the level of perceived insecurity and uncertainty.

Without model testing, the uncertainty can be reduced by several ways, where people could select an appropriate way to use depending on the situation. They should consider using the strategies that could quickly move them away from the uncertain stage, and also those that do not cause the damage after the uncertain stage. The practitioners may choose some of the following strategies: information seeking, identify with others, replacing (direct and alternative replacing), preparing for future, understand the actual problem of the event, positive and negative prejudice, removing the obstruction, heighten the level of security, and getting encouraged by oneself or others. 💎

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