

# 科技部補助專題研究計畫成果報告 期末報告

## 雙品牌下服務失敗的外溢效果-建模與分析

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中文摘要：雙品牌的文獻多為探討顧客對產品(如：索尼-愛立信手機)的評估，但極少研究提及雙品牌服務(如：美國肯德基與 A&W 共用店面的餐飲服務)的評估。故本計畫目的為彌補此文獻缺口。本研究調查一個重要問題：在服務失敗下，為何顧客可能對雙品牌的夥伴有不同程度外溢效果？本研究認為，除了熟悉度高低，「自我參照」或「他人參照」可能為答案。本研究利用期望-效用模式建立數學模型驗證兩個命題。第一個命題應用「自我參照」理論，論述當顧客專注本身需求時，將更難調適服務失敗(擴大效果)，第二個命題應用「他人參照」理論，論述當顧客從服務提供者角度思考，對服務失敗較易釋懷(緩衝效果)。我們認為在聯盟中，擴大效果將導致負面聯想交互轉移，而緩衝效果則導致其中一個品牌在服務挽救上發生搭便車效應。本研究有二個學術貢獻：一，就我們所知，本研究為第一個用自我與他人參照理論澄清尚未明朗的熟悉度調節外溢效果；二，相較其他「信念更新」模型(李與戴克，2009)，本模型應用「信念更新」於一個新領域-服務失敗。

中文關鍵詞：雙品牌、服務失敗、外溢效果、自我(他人)參照

英文摘要：Prior literature has mainly discussed over consumer evaluations of the co-branded products (e.g., the Sony-Ericsson mobile), but the investigations with respect to the intangible co-branded service (e.g., KFC-A&W co-shared fast-food restaurant in U.S.) are rather scarce. The objective of this study is to bridge this gap.

In this research we investigate an important question: if a failure occurs in co-branding, why could the customers have different magnitudes of negative spillover effects across each of the partnering brands? We argue that, except different levels of brand familiarity, the different thoughts of self-referencing and other-referencing might be the answer to the question. We adapt the expectancy-value model to validate two research propositions. The first proposition applies the theory of self-referencing to argue that the customers may become more upset (i.e., the amplifying effect) when they focus on their own needs; on the contrary, the second proposition applies the theory of other-

referencing to posit that the buffering effect may occur if the customer thinks of the failure from the provider' s perspective. We claim that these amplifying and buffering spillover effects may lead to a transfer of a magnified negative association from one brand to the other as well as a free-rider effect of forgiving in a partnership, respectively.

This research makes two distinct contributions to the research field of co-branding. First of all, to the author' s knowledge, we are the first to use the theory of self-referencing and other-referencing (cf. Wan et al., 2011) to clarify the current conflicting findings of the moderating impacts of brand familiarity on the spillover effects on the belief level. Secondly, in contrast to the belief updating models in co-branding field (cf. Lee and Decker, 2009), our mathematical model offers an innovative way of explaining the mechanism of customers' belief updating in a new scenario - service failures. For Taiwanese branding managers, by considering the theory of other-referencing, we can address the importance of altruism, and thus we may help to provide a normative guideline of improving the seller-buyer relationship.

英文關鍵詞： Co-branding, Service Failure, Spillover Effect, Self-(Other-)Referencing

## 1. Introduction and Objective (前言及研究目的)

Co-branding remains a popular business strategy for enterprises to sustain a high level of growth rate. In optimal cases, this strategy can make the best use of the salient attributes (e.g., the better entertainment-ability of *Sony*) of allying brands<sup>1</sup>, and can offer opportunities for both brands to reach a new market. However, existing investigations regarding the intangible co-branded service are relatively few (Helmig et al., p.374, 2008). The objective of this study is to bridge this gap. In particular, we examine the potential risk in co-branded services – consumers’ negative response to a service failure (we called it *the negative spillover effect* in this study). Similar to the case under a co-branded product scenario (cf. Simonin and Ruth, p.39, 1998), we wonder whether customers would have different magnitudes of negative spillover effects across each of the allying brands. We attempt to discuss the following issue, which has remained silent in the co-branding research field:

- (1) If a service failure occurs in co-branding, *why* do customers have different magnitudes of negative spillover effects across each of the partnering brands? Is the different magnitude of negative spillover effect relevant to consumers’ different thinking styles (i.e., Self-/Other-Referencing)?

The remainder of this paper is organized as follows: The current section highlights research background and objective. In section 2, we will review existing relevant literature and conclude two important research propositions from previous studies. Section 3 offers a brief introduction of research method. Section 4 provides conclusions, contributions, and future research directions.

## 2. Literature Review and Research Propositions (文獻探討及研究假說)

This section consists of two sub-sections. In the first sub-section, we will offer a brief review of the co-branded service, the spillover effects in co-branding, and consumer responses to service failures. In the second sub-section, we will conclude two propositions for further validations.

### 2.1 Literature Review

#### 2.1.1 Literature Review of Co-branded Service

As far as we know, the examples of “co-branded service” include the co-branded credit card service (e.g., the *AT&T* and *MasterCard* financial cards, cf. Helmig et al., 2008; Rahman and Areni, 2009), retail co-branding (e.g., *McDonald’s* with *Wal-Mart*; cf. Young et al., 2001), and the case of dual-branding (cf. Levin and Levin, 2000; e.g., the *KFC-A&W* fast-food restaurant). As mentioned in section 1, little prior work has been done in research regarding co-branded services (cf. Helmig et al., 2008)<sup>2</sup>. Hurwitz (1995) could be the first to explore the success factors of the co-branded

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<sup>1</sup> In this paper, we use the terms “co-branded product (or co-branded service)” and “joint product (or joint service)” interchangeably to represent the products (or service) released (or offered) in an alliance; we use the “allying brands” and the “partnering brands” interchangeably to represent the two focal brands (e.g., Sony and Ericsson in the Sony-Ericsson alliance) in a co-branding alliance.

<sup>2</sup> Please note that in this paper we only include those studies where the phrase “co-branded service” appears in the articles. Besides, in this paper we mainly focused on the co-branded service to the “consumers”. That is, we do not include the studies with respect to co-branded services in a business-to-business setting (e.g., Besharat, 2010).

service. The second study with respect to this topic was Levin et al. (1996). Following Levin et al. (1996), Levin and Levin (2000) employed the assimilation and contrast theory to expound the impact of dual-branding on consumer evaluations. They reported that in this type of alliance consumers tend to imagine a similar level of service quality for both brands, especially when the target restaurant is not well-specified (e.g., ambiguity) and there's a broad range of overlapping of features (e.g., both restaurants share food service and preparation). Wright et al., (2007) determined the incentives and inhibitions associated with the *McDonald's/McCafe* co-branded arrangement. Overall, the discussions of co-branded services contribute to the co-branding field by identifying the key successful factors from the perspectives of consumer psychology and strategic intent. However, a possible and an essential problem within the co-branded services – service failures – has not been discussed in this field (cf. Keiningham et al., 2006).

### 2.1.2 Literature Review of Spillover Effects in Co-branding

The term “spillover effects” is mentioned frequently in the field of co-branding (Swaminathan et al., 2012). From the perspective of consumer psychology, researchers often examine this effect on two levels – the spillover effect on the attitude level (e.g., Simonin and Ruth, 1998; Baumgarth, 2004) and the spillover effect on the belief level (i.e., belief dilutions; e.g., Hillyer and Tikoo, 1995; Geylani et al., 2008; Lee and Decker, 2009). In comparison to the larger number of studies regarding the spillover effects on the attitude level, the discussions of the spillover effect on the belief level are rather scarce. Hillyer and Tikoo (1995) reported that in a co-branding setting (e.g. *Sony-Ericsson*), the attribute beliefs (in terms of perceived performance levels) of the second brand (e.g., *Ericsson*) can lead to the enhancement or dilution on the beliefs of the primary brand (e.g., *Sony*). Park et al. (1996) articulated that the attribute complementarity is a crucial factor in a favorable evaluation. Geylani et al. (2008) utilized a modeling method to posit that consumers' attribute beliefs may change through an alliance (e.g., if *Sony* is perceived to perform better on “entertainment-ability”, then the attribute of “entertainment-ability” of *Ericsson* will be enhanced through the alliance). Finally, Lee and Decker (2009) showed that the attribute complementarity can cause a negative spillover effect on the belief level, and hence the attribute beliefs of the allying brands should be perceived as only “moderately apart” (e.g., it is not wise for *Sony* to choose a partner that is perceived as very bad in “entertainment-ability”).

In this field, some scholars have demonstrated that the different level of brand familiarity could be a moderator of the strength of the spillover effect on the attitude level (e.g., Simonin and Ruth, 1998). However a controversial issue exists when investigating the moderating effect of brand familiarity on the spillover effect on the belief level. That is, we cannot use brand familiarity as a moderator to explain the different magnitudes of the spillover effect on the belief level across each of the partnering brands. For example, Lee and Decker (2009) showed that, according to Grime et al. (2002), one brand may receive a stronger spillover effect on the belief level if a higher degree of familiarity exists. This effect may be called an “amplifying” effect. However, a “buffering” effect may occur as well (cf. Sheinin, 2000).

### 2.1.3 Literature Review of Consumer Responses to Service Failures

The amplifying or buffering effects are mentioned frequently by scholars in the service marketing field, especially when investigating topics regarding “consumer responses to service failures”. A service failure could be resolved by the service provider’s actions (Groenroos, 1988). Among the studies regarding service failure and recovery, one particular stream of work emphasizes and identifies a number of key antecedents of effective recovery strategies, including attributions (e.g., Bitner, 1990; Grewal et al., 2008), perceived justice (e.g., Goodwin and Ross, 1992), and customer relationship with providers (e.g., Wan et al., 2011; Kaltcheva et al., 2012). For the latter in particular, researchers have reported mixed findings (cf. Kaltcheva et al., 2012) on how the overall evaluations and the psychological connection that a customer has with a service provider (i.e., we called it a strong relationship in this study) may moderate the magnitude of consumers’ negative responses to a service failure (we called it the negative spillover effect in this study).

For instance, Bolton (1998) provided a model of the duration of the customer-firm relationship which he used to examine whether a strong relationship with the service provider (i.e., in terms of a high level of satisfactions) may moderate the magnitude of the spillover effect of a new but inconsistent service experience (i.e., a failure). She argued that a contrast effect may exist when the customers’ new experience is very different from that in their prior perceptions, thus eventually an amplifying effect on the negative spillover effects may occur. From the perspectives of reciprocity and betrayal, Grégoire et al. (2009) investigated the influences of a strong relationship and time on consumers’ desires for revenge in a service failure scenario. In a longitudinal setting, the authors surveyed online complainers on two established websites. According to their findings, the customers, who have a strong relationship with a service provider, may lead to a low desire for a revenge action at the beginning. However, after two months, the customers’ desires for revenge never completely disappear and still remain high. In addition, the authors reported that, for those customers, a sincere apology and a modest compensation may be the best recovery strategies for reducing the customers’ desires for revenge.

Assuming that a strong relationship could be categorized by two types of norms (e.g., the communal or exchange relationship; cf. Clark and Mills, 1979), Wan et al. (2011) investigated whether the negative spillover effects caused by a service failure could be mitigated or magnified under two different scenarios – the customers with self-referencing thought or with other-referencing thought. In their experiments, the participants are primed to have a strong relationship with the owner of one restaurant – having a positive feeling towards owner (communal relationship), a satisfying dining experience (exchange relationship), and frequent dining experiences at that restaurant (both). In other words, they are primed to have a high level of familiarity with the owner and the service quality of that restaurant (Wan et al., p.273, 2011; cf. Alba and Hutchinson, 1987<sup>3</sup>). The authors found that, when a failure occurs, different thoughts of

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<sup>3</sup> The familiarity can be defined as “the number of product-related experience (product usage) that has been accumulated by consumers” (Alba and Hutchinson, 1987). If one customer visits a restaurant very frequently, and if she (or he) has dinners in that restaurant with her (or his) friends and family members very often, we can thus argue that this customer possesses a higher level of brand familiarity with the service quality of the restaurant and the owner of it.

self-referencing and other-referencing can lead to various degrees of negative spillover effects – (1) the customers react more negatively (i.e., amplifying) to the failure when a self-referencing thought (i.e., focus on their own needs; cf. Wan et al., p. 265, 2011) exists; (2) on the contrary, the customers react less negatively (i.e., buffering) when the other-referencing thought (i.e., considering the failure from the provider’s perspective) occurs. To sum up, the current investigations with respect to consumer responses to service failures have shown mixed findings of how a strong relationship with the service provider could moderate the magnitude of the negative spillover effects. A surprising finding is that an amplifying effect and a buffering effect may be resulted from having the self-referencing and other-referencing thoughts, respectively (Wan et al., p.265, 2011).

## 2.2 Research Propositions

By reviewing relevant literature, we found that a common logic regarding “inconsistency” exists both in the field of co-branding and the area of service failures. That is, in the field of co-branding, according to the theory of information integration (Anderson, 1981), the customers may evaluate the co-brand as a combination of the two allying brands, hence the co-brand may represent an inconsistent concept relative to the two brands. Taking the *Sony-Ericsson* mobile as an example, supposing that *Sony* works better in “entertainment-ability” than *Ericsson* does before the alliance, according to the theory of information integration, the customers may expect a lower performance level of “entertainment-ability” of *Sony-Ericsson*. Due to the inconsistent attribute beliefs between this co-brand and *Sony*, the customers may generate a negative spillover effect on the “entertainment-ability” attribute of *Sony*. Previous studies have reported that brand familiarity may moderate the magnitude of this negative spillover effect. However, currently there is no consensus regarding the moderating role of familiarity – e.g. a high level of familiarity with Sony may lead to an amplifying or a buffering effect on the magnitude of negative spillover effect on the belief level (cf. Lee and Decker, 2009) of Sony. We argue that the same phenomenon may also occur under a co-branded service scenario.

An almost-similar case is observed in the area of service failures. According to Rust et al. (1999), failure is perceived as an inconsistent event in contrast to the regular level of service quality of the service provider, thus customers may have a negative spillover effect to the service firm. Prior literature has also reported that the magnitudes of that effect may be moderated by a strong relationship between the customers and service providers (e.g., a high level of affective commitment). That is, under a service failure scenario, the magnitude of consumers’ negative spillover effect may be larger (amplifying) or smaller (buffering). Recently, a surprising finding is that an amplifying effect and a buffering effect may be resulted from having the self-referencing and other-referencing thoughts, respectively (Wan et al., p.265, 2011).

Since a common logic regarding “inconsistency” exists in these two scientific areas, our research aimed to connect the field of co-branding evaluations with the area of service failures. In particular, we wanted to apply the theory of self-referencing and other-referencing (cf. Wan et al., 2011) in the area of service failures to explain *why* the customers may have different magnitudes of

negative spillover effects across each of the allying brands (i.e., the amplifying or buffering effect). In doing so, we can address the importance of the amplifying and buffering effects in the co-branding field, as these two effects might be relevant to the motives of alliance formation (please refer to the intuitions of propositions below). Besides, in doing so, we can also clarify the currently conflicting issue – the moderating role of brand familiarity on the spillover effect on the belief level.

As mentioned in section 1, two research propositions may be concluded from previous studies. We found that these propositions could be validated by using our mathematical model. The first proposition is relevant to the theory of self-referencing (Wan et al., 2011), and argues that the customers may become more upset (amplifying) when they focus on their own needs; In contrast, the second proposition relates to the theory of other-referencing (Wan et al., 2011), and posits that a buffering effect may occur if the customer thinks of the failure by considering it from the provider's perspective.

In the following portion we will discuss the “amplifying effect”. Grime et al. (2002) have inferred that a customer, when he (or she) is highly familiar with one brand, would easily change his (or her) perceptions of that brand, if a negative experience occurs. Wan et al. (2011) have also reported that the customers may react more negatively to a service failure in a restaurant; the participants are highly familiar with if they have the self-referencing thought. We argue that, if a failure occurs under a dual-branding scenario (e.g., the *KFC • A&W* restaurant), a customer with a high level of familiarity with one of the allying brands (e.g., *KFC*) may generate more negative feelings of that brand (e.g., *KFC*) when he (or she) has the self-referencing thoughts (i.e., focus on his own need). Therefore, we provide the following proposition:

**Proposition 1 (an amplifying effect)**

**Assuming a high level of familiarity exists, a self-referencing thought may cause an amplifying influence on the negative spillover effect of service failures under a co-branded service scenario.**

The intuition behind Prop. 1 is that, assuming one customer tends to accuse one brand of making a mistake; the negative spillover effect of that service failure on this brand may be much larger, even if this customer is very familiar with that brand (and thus, to define somewhat loosely, is loyal to that brand). This amplifying effect can be explained by “the higher the brand is (in terms of a high level of familiarity and loyalty), the harder the brand falls” effect (cf. Grégoire and Fisher, 2008).

In particular, this magnified negative effect of one brand in the alliance (e.g., *KFC*) may lead

to an unfavorable association of that brand, and finally could result in a transfer to its partner (e.g., *A&W*) (cf. Hillyer and Tikoo, 1995). Eventually, both brands may suffer this amplified damage together. Therefore, we suggest that, before the alliance is formed, the prospective players should be alert to this potential risk.

In contrast, according to Sheinin (2000), the customer, when highly familiar with one brand, would be more difficult to generate negative feelings on that brand, if an unfavorable purchasing experience occurs. This type of behavior is called the “buffering effect”. Wan et al. (2011) have also claimed that the customers may tend to have a buffering effect on their response to a service failure in a restaurant that the participants are highly familiar with, if they have the other-referencing thought. Following the same logic, we may conjecture that, if there exists an impolite attitude with a waitress at *KFC • A&W* for example, a customer with a high level of familiarity with *KFC* may generate a reduced negative feeling of that brand, when he (or she) has other-referencing thought (i.e., considering the failure from the provider’s perspective). Hence, Prop. 2 is relevant to this “buffering effect”.

### **Proposition 2 (a buffering effect)**

**Assuming a high level of familiarity exists, the other-referencing thought may cause a buffering influence on the negative spillover effect of service failures under a co-branded service scenario.**

The intuition behind Prop. 2 is that, under a service failure situation, the negative feelings of a customer may be mitigated, as the customer may think of this failure from the provider’s perspective. In particular, this buffering effect may lead to a free-rider effect of forgiving in a partnership (cf. Simonin and Ruth., 1998; Venkatesh et al., 2000). That is, assuming a failure exists in a dual-branding arrangement (e.g., a *KFC • A&W* restaurant), if a loyal customer of one brand (*KFC*) has the other-referencing thought, then the negative spillover effect of that brand (*KFC*) may be lessened and the customer may thus forgive that brand. So, eventually this customer, under certain conditions (i.e., please see p.4, the ambiguity of target; cf. Levin and Levin, p.45, 2000), might also forgive its partner (*A&W*) for no reason.

From the two propositions listed above, we can provide an answer to the research question. That is, in addition to the different degrees of brand familiarity (e.g., one brand is familiar but the other brand is not), the different thoughts of self-referencing and other-referencing might be the underlying reason behind the different magnitudes of feedback effects across each of the allying brands (i.e., amplifying or buffering). In an alliance the amplifying and buffering negative spillover effects are especially important, as these effects might lead to a transfer of the magnified negative

associations from one brand to the other, and a potential free-rider effect of forgiving in a partnership, respectively. Moreover, by applying the theory of other-referencing, we could address the importance of altruism, which may be a useful way for consumers to accompany happiness and remove suffering under a service failure scenario (cf. p.53, Tsong, 2000).

### 3. Research Method (研究方法)

The aim of this section is to provide a mathematical model for proving the two propositions listed in section 2. We use a mathematical modeling approach in this study in response to Helmig et al. (2008)'s recommendation that more quantitative studies are required in this field. According to James (p.24, 2005), consumers usually evaluate a brand's tangible and intangible attributes and thus have their attribute beliefs. For a service brand, the tangible attributes, for example, may include the better facilities, or equipment as well as the better and healthier food material (cf. Desarbo et al., 1994; Teas, 1993). On the other hand, the intangible attributes are often the polite or rude attitude of the server, a quick response to the customer's request, speedy of food-preparation, and a convenient location (cf. Zeithaml et al., 1990; Teas, 1993; Desarbo et al., 1994). Our model was built by referencing the expectancy-value model (Bass and Talarzyk, 1972).

In the following, we will start with characterizing the allying brands, and then we will formulate how the pre-alliance attribute beliefs about each of the allying brands may change after the customers experience the co-branded service – the spillover effects on the belief level. We will also show how the preference value of each of the allying brands may also change after co-branding –the spillover effects on the attitude level. Finally we will show the proofs of the two propositions.

#### 3.1 Model Settings

To begin, we assume that one service sector (e.g., the hamburger fast-food restaurants; cf. p.46, Levin and Levin, 2000) consists of some equally-reputed brands (cf. Balachander and Stock, 2009). Supposed that  $A$  and  $B$  are the brands for establishing a “dual-branding” fast-food restaurant (please see p.3; cf. Levin and Levin, 2000). That is, at time point  $i=1$ , customers could either experience the food service at each brand ( $A$  or  $B$ )'s location, if the partnership is not established, or customers could try the co-branded food at the shared location when the alliance is formed. It is important to note that at this shared location both brands use the same kitchen to prepare food and the customers can order both brands' food at the same counter (e.g.,  $KFC-A\&W$ ; cf. Levin and Levin, 2000). We only consider the two segments of sizes  $M_{F(1)}$  ( $M_{F(1)} > 0$ ,  $F \in \{A, B\}$  and indicates the allying brands) that prefer  $A$  and  $B$ , respectively. Hereafter we will use  $U$  ( $U \in \{a, b\}$ ) to indicate preference segments. Indeed segment  $a$  (or  $b$ ) can be viewed as a combination of the loyal customers of  $A$  (or  $B$ ). We assume that those loyal customers of  $A$  (or  $B$ ) are also highly familiar with  $A$  (or  $B$ ) and knows the service quality of  $A$  (or  $B$ ) very well.

As mentioned at the beginning of this section, we employed the expectancy-value model

(Fishbein and Ajzen, 1975) to characterize consumer preference. That is, at each segment the consumers' preference at time  $i$  is formulated as a relative value (cf. Bolton, 1998) consisting of segment  $U$ 's relative weights of attribute importance  $w^{H,U} > 0$  ( $H \in \{x, y\}$  and indicates attributes; for example,  $x$  represents a quick response to the customer's request and  $y$  represents the better facilities), and segment  $U$ 's belief of each attribute of each brand  $P_{F(i)}^{H,U} > 0$ . By using the expectancy-value model,  $U$ 's preference value  $\Phi_{F(i)}^U$  can be formulated as:

$$\Phi_{F(i)}^U = \sum_H w^{H,U} \times P_{F(i)}^{H,U} . \quad (1)$$

Initially the customers at each segment have different magnitudes of preference value (cf. Eq.(1)) of each service brand. In a dual-branding setting, we argue that the customers may use their dining experiences at the shared location to update their pre-alliance beliefs about the two service brands (i.e., the spillover effects on the belief level).

In the following we will explain how we formulate the pre-alliance beliefs of each segment. Let us assume that  $A$  is known by all the customers at the two segments that it performs well on  $x$  (i.e.,  $x$  refers to the intangible attribute), but not  $y$  (i.e.,  $y$  refers to the tangible attribute) at  $i=1$  (i.e., attribute  $x$  is salient to  $A$ ; cf. Geylani et al., 2008). That is, we assume that the initial perceived level of  $x$  of  $A$  is larger than the initial ( $i = 1$ ) level of  $x$  of  $B$ . Similarly, we assume that the initial attribute level of  $y$  of  $B$  is larger than the initial ( $i = 1$ ) level of  $y$  of  $A$ <sup>4</sup>,

$$P_{A(1)}^x > P_{B(1)}^x, \quad (2)$$

$$P_{B(1)}^y > P_{A(1)}^y . \quad (3)$$

We further assume that segment  $U$ 's relative weight of attribute importance of attribute  $H$  is formulated by  $w^{H,U} \in (0, 1)$ . Therefore the following inequalities regarding  $w^{H,U}$  can capture the between-segment heterogeneity:

$$w^{x,a} > w^{y,a}, \text{ where } \sum_H w^{H,a} = 1, \quad (4)$$

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<sup>4</sup> The setting here can be referred to Geylani et al. (2008). The authors argued that an attribute, which is salient to one of the allying brands, may have a better performance than that of the same attribute of the others.

$$w^{y,b} > w^{x,b}, \text{ where } \sum_H w^{H,b} = 1. \quad (5)$$

Eqs. (4) and (5) show that segment  $a$  considers attribute  $x$  to be more important while segment  $b$  concerns  $y$  more important. Eventually, Eqs. (2) and (5) together would imply

$$\Phi_{A(1)}^a > \Phi_{B(1)}^a, \quad (6)$$

$$\Phi_{B(1)}^b > \Phi_{A(1)}^b. \quad (7)$$

The inequalities (6) and (7) can explain the segment  $a'$ ( $b$ ) preference order.

With the need of parsimony of our model (cf. p.6, Venkatesh et al., 2000), the actual attribute levels of the co-branded service (i.e., co-branding beliefs) are given by

$$P_{AB(1)}^x = \frac{1}{2}(P_{A(1)}^x + P_{B(1)}^x), \quad (8)$$

$$P_{AB(1)}^y = \frac{1}{2}(P_{A(1)}^y + P_{B(1)}^y). \quad (9)$$

Park et al. (1993) have inferred that the updating process of attribute beliefs involves the model of accommodation. Hence we argue that consumers will combine their pre-alliance beliefs and co-branding beliefs to form their post-alliance beliefs of the two service brands at the second time point ( $i=2$ ). Therefore, the post-alliance beliefs regarding the allying brands of the customers at each segment can be modeled as

$$P_{F(2)}^{H,U} = \gamma_F^{H,U} \times P_{AB(1)}^H + (1 - \gamma_F^{H,U}) \times P_{F(1)}^H \quad (10)$$

It is important to notice that the updating weight,  $\gamma_F^{H,U}$ , can be employed to measure the degree of “the negative spillover effects on belief level” of the two partnering brands.

Finally, we can compute the preference value at the  $i=2$ ,

$$\Phi_{F(2)}^U = \sum_H w^{H,U} \times P_{F(2)}^{H,U}. \quad (11)$$

Corresponding to the objective of this study, when a service failure occurs, we argue that the

customers' attribute beliefs of each of the allying brands may change; This revision is called “the spillover effects on the belief level”. Eventually, due to the change of attribute beliefs, their preference value of each brand may also change. We call this “the spillover effects on the attitude level”. For instance, a negative spillover effect on the belief level of attribute  $x$  of brand  $A$  is captured by  $P_{A(2)}^{x,U} < P_{A(1)}^x$ ; a negative spillover effect on the attitude level of brand  $A$  on segment  $a$  is captured by  $\Phi_{A(2)}^a < \Phi_{A(1)}^a$ .

To prove propositions, we have to add the following formulations. Please note that, since the underlying process of spillover effects is the same within two segments, we will only provide an example of segment  $a$ 's spillover effects on the belief level and spillover effects on the attitude level analysis in the following. Therefore, for notational simplicity, hereafter we drop the segment index,  $U$ .

First we assume that the service failure is caused by the damage on the performance level of an intangible attribute (e.g., attribute  $x$ ) in a dual-branding setting (e.g., an extremely slow response to the customer's request at *KFC • A&W*). Therefore, the customers at segment  $a$  may use these actual beliefs of the co-branded service to update their beliefs about brand  $A$  (cf. Eq. (10)). Therefore, supposing further that  $P_{A(2)}^x < P_{A(1)}^x$ , and thus let  $S^a$  be the magnitude of *negative spillover effect on the belief level*. That is,

$$S^a = P_{A(1)}^x - P_{A(2)}^x. \quad (12)$$

We let  $S^b$  be the respective change of the magnitude of negative spillover effect on the attitude level. That is,

$$S^b = \Phi_{A(1)}^a - \Phi_{A(2)}^a. \quad (13)$$

### 3.2 Proofs of proving propositions formulating theory of self- (other-) referencing

If we let  $f$  denote the level of brand familiarity with brand  $A$ , then we assume  $\gamma_A^x$  in Eq. (10) is a monotone increasing function of  $f$ . That is,  $\partial\gamma_A^x / \partial f > 0$ . In doing so, we are able to show that the high level of brand familiarity may cause an amplifying effect on the *negative spillover effect on*

the belief level (Grime et al., 2002) (i.e., simply using the chain rule to show  $\partial P_{A(2)}^x / \partial \gamma_A^x < 0$ ). As reported earlier, the high level of brand familiarity may also be able to cause a buffering effect within the same setting. To prove it, we can just assume  $\gamma_A^x$  in Eq. (10) is a monotone decreasing function of  $f$ . That is,  $\partial \gamma_A^x / \partial f < 0$ .

However in this paper we argue that the amplifying (Prop. 1) and the buffering (Prop. 2) effects might occur even if a high level of familiarity exists. To model the high level of familiarity, we let  $f$  denote the level of familiarity and assume  $f \in (0,1)$  (cf. Loginova, p.299, 2010). We further posit that  $f > 0.5$ . We argue that this formulation could infer a high level of familiarity (cf. Loginova, p.300, 2010). That is, we adopt the argument of Grime et al. (2002) regarding the moderating role of familiarity.

### 3.2.1 Proofs of Proposition 1 (an amplifying effect)

To show that an amplifying (Prop. 1) effect is caused by the self-referencing thought, we let  $T$  denote the occurrence of having the self-referencing thought, and assume  $\gamma_A^x$  in Eq. (10) is a monotone increasing function of  $T$ , That is

$$\partial \gamma_A^x / \partial T > 0. \quad (14)$$

The rationale behind Eq. (14) is that, for example, the customers may update their pre-alliance beliefs about attribute  $x$  of brand  $A$  more (cf. Eq. (10)) if he (or she) has the self-referencing thought, given that he (or she) is highly familiar with brand  $A$ .

In this case, since  $\partial S^a / \partial P_{A(2)}^x < 0$  and  $\partial P_{A(2)}^x / \partial \gamma_A^x < 0$ , and  $\partial \gamma_A^x / \partial T > 0$ , and thus  $\partial S^a / \partial T > 0$ .

That is, an amplifying effect on the belief level occurs. Besides, assuming other things being the same, since  $\partial S^b / \partial S^a > 0$ , and thus  $\partial S^b / \partial T > 0$ . That means, an amplifying effect on the attitude level occurs.

### 3.2.2 Proofs of Proposition 2 (a buffering effect)

To prove Prop. 2, we have to make another assumption:  $T \in [0,1]$ . In addition, we let  $(1-T)$  denote the occurrence of having the other-referencing thought. That is, we have to assume that the “self-referencing” and “other-referencing” thoughts are located at the extremes (i.e., the opposite direction) of a continuum. Actually, in the field of economics, this assumption has existed in the Hotelling’s model (1929). We can prove Prop. 2 by first assuming  $\gamma_A^x$  in Eq. (10) is a monotone increasing function of  $T$ . Then we have to show

$$\partial \gamma_A^x / \partial (1-T) < 0. \quad (15)$$

That is, in this case, because  $\partial S^a / \partial(1-T) < 0$ , and thus a buffering effect *on the negative spillover effect on the belief level* occurs; Since  $\partial S^b / \partial(1-T) < 0$ , and thus a buffering effect on the negative spillover effect on the attitude level occurs.

Please note that, in contrast to the belief updating models in co-branding (e.g., the Lee and Decker (2009) model), our model provides an innovative way of quantifying the theory of self-referencing and other-referencing and using the formulations to explain the mechanism of customers' belief updating under a new scenario – service failures.

#### **4. Conclusions, Contributions, and Future Research Directions (結論、貢獻與未來研究建議)**

In this research we argue that, excluding the various degrees of brand familiarity (e.g., one brand is familiar but the other brand is not), the customers' different thoughts of self-referencing and other-referencing might also be the underlying reason behind the different magnitudes of negative feedback effects across each of the allying brands (i.e., amplifying or buffering). In addition, we try to use a mathematical modeling approach to show that (1) the amplifying effect may occur when the customers focus on their own needs; (2) on the other hand, the buffering effect may occur if the customers think of the failure from the provider's perspective. Finally, we try to connect these propositions to the motives of alliance formation: these amplifying and buffering negative spillover effects may lead to a transfer of magnified negative associations from one brand to the other, and a potential free-rider effect of forgiving in a partnership.

The study makes two distinct contributions to the research field of co-branding. First of all, to the author's knowledge, we are the first to use the theory of self-referencing and other-referencing (cf. Wan et al., 2011) to clarify the current conflicting findings of the moderating impacts of brand familiarity on *the spillover effects on the belief level*. In addition, we are the first to argue that the theory of other-referencing is related to a free-rider effect of forgiving in the partnership. Secondly, in contrast to the belief updating models in co-branding field (cf. Geylani et al., 2008; Lee and Decker, 2009), our mathematical model offers an innovative way of explaining the mechanism of customers' belief updating in a new scenario – service failures. As suggested by Geylani et al. (p.742, 2008), our model takes a new step towards modeling the brand familiarity successfully. By considering the theory of other-referencing, we can address the importance of altruism – the service firm should draw their attention to their own obligations instead of the complaints when dealing with difficult customers –, and thus may help provide a normative guideline of improving the seller-buyer relationship for branding managers. Future research may quantify the expected attribute levels or we could include the four types of service recovery attributes (cf., Smith et al., 1999) into our expectancy-value formulations.

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# 科技部補助專題研究計畫出席國際學術會議心得報告

日期：103 年 07 月 22 日

計畫編號	MOST 102-2410-H-004-181-		
計畫名稱	雙品牌下服務失敗的外溢效果-建模與分析		
出國人員姓名	李嘉林	服務機構及職稱	國立政治大學企管系 助理教授
會議時間	103 年 7 月 9 日至 103 年 7 月 13 日	會議地點	法國巴黎市
會議名稱	(中文) 2014 國際應用心理學年會 (英文) 2014 International Congress of Applied Psychology		
發表題目	<p>1. (中文) 雙品牌聯盟一定能產生綜效嗎-品牌權益觀點? (英文) Will a Co-branding Alliance Always Create a Synergy - from the perspective of brand equity ?</p> <p>2. (中文) 雙品牌下的服務失敗如何影響夥伴選擇? (英文) How does a service failure affect partner selection in co-branding?</p>		

## 一、參加會議經過

本次出國之目的為參加 2014 國際應用心理(學)研究年會(2014 ICAP Conference), 本次會議並同時與國際經濟心理(學)研究學會(International Association for Research in Economic Psychology)合辦, 該學會並為經濟心理期刊 (Journal of Economy Psychology)的編輯與發行單位。本次我投稿的研究屬於經濟心理學會的子領域:消費者行為。

台灣到開會目的地:法國巴黎市有本國長榮航空直航,但因擬搭乘日期的機位皆已售完;因此本人此次於 7/8 晚上 11 點 10 分由台灣桃園機場先搭乘華航編號 CI061 ,經過 12 小時的飛行後,於 7/9 早上 7 點多到達德國法蘭克福機場,再搭乘由法蘭克福出發的高速列車(ICE)直達巴黎市中心,抵達時為 7/9 中午十二點多。時間上與其他經由第三地轉機到巴黎,再由機場至市中心的時間差不多;價錢上也與直飛巴黎的長榮航空差不多(約 47,000 至 52,000 間)。

本次會議於 7 月 8 日開始,但因 7 月 8 日學校仍有公務需處理,因此 7 月 8 日的議程我沒有參加;7 月 9 日抵達巴黎後,我隨即前往旅館入住,並前往大會現場領取名牌等相關資料;7 月 10 日早上我聆聽消費者行為的子場次,該日主要的發表都在會場二樓的 Room252B。我對於一些投資行為的研究感到有興趣;有一篇研究解釋當線上投資客心情不好時,會影響他們的投資行為;我認為此類的研究需要對心理學實驗法非常的熟悉,想要進入這個領域,我還需要多加努力。7 月 11 日,我聆聽了心理學領域之次子題議程發表。此議程的發表與家庭及孩子的成長有關。有一篇研究解釋家庭的衝突與一個家族的歷史故事與小孩成長過程與解決困難有相關性;我對於此研究的心理學理論推導感到非常的有興趣;希望可將此理論與消費者購物行

為連上關係。7月12日是我進行第一篇論文報告的日子。本次會議採用電子海報(E-poster)系統進行簡要口頭報告(Brief Oral Presentation)：發表人需面對著電腦螢幕對周遭的人發表研究的成果並進行討論。由於這是我第一次採用此方式報告，因此感到有點緊張，但還是順利的把研究成果介紹給聽者們；很可惜的是此篇發表論文並沒有得到回饋。本日也同時聽取了其他場次的研究發表，印象最深刻的一個研究是一位德國研究者利用目前極有名的M-吐克(M-turk)網站，進行實驗，並成功的完成了實驗。此篇研究讓我了解到Mturk的使用方式以及目前在學術界的廣泛使用情況。7月13日是我進行第二篇論文報告的日子。在進行報告後，獲得各專家學者的意見：第一是學者建議可採用負面效果操弄(manipulation)的作法來執行實驗會較容易成功；第二是學者建議應採用實際品牌作為操弄的對象；第三是可加入各種契合度與消費者不同的涉入度來進行研究。7月14日會議已經結束，我也於早上9點搭乘由巴黎市中心出發的高速列車(ICE)回到德國法蘭克福，並轉至比樂費爾德(Bielefeld)：7月15日至7月18日於德國Bielefeld大學共拜訪了五位教授，進行研究的討論。7月19日早上搭乘華航編號CI062，經過12小時的飛行後，於7月20日早上六點半抵達桃園機場。

## 二、與會心得

本人藉由參加本次會議，了解未來經濟心理期刊與未來行為經濟學的研究最新研究方向：例如一個波蘭的學者利用心理學的眼球軌跡追蹤(eye tracking)技術探討廣告圖像對消費者心理的影響。作者利用好幾個圖像顯示不同的廣告子題，並探討男性與女性聚焦的點存在顯著的差異，是一個非常有趣的研究。此外，我瀏覽了一下本次消費者行為的所有題目與研究方法，發現主要的研究方法還是心理學研究中

的實驗法；另本次年會在巴黎舉辦，因此大部分的學者都是從歐洲內陸來參加的。

### 三、發表論文全文或摘要

本人於會議中發表兩篇論文，此兩篇論文重點摘要如下：第一篇研究用經濟學研究常用的數學建模與心理學研究常用的實驗法探討在雙品牌聯盟下的水平聯盟 (Horizontal Alliances) 下，雙品牌的品牌權益與夥伴品牌的品牌權益在聯盟前後的變化，此研究的主要結論有二：第一，水平雙品牌即使在產品契合度 (Product Fit) 高的情況下，雙品牌與夥伴品牌的品牌權益仍未能保證能一定能增加；第二，本研究建議業者採用成分雙品牌策略以提升品牌權益。

第二篇研究用經濟學研究常用的數學建模與心理學研究常用的實驗法探討雙品牌服務聯盟下，服務失敗對於消費者歸因至夥伴品牌的過程以及對於夥伴選擇的影響，我的研究結論有二：第一，消費者個人歸因過程會影響雙品牌下夥伴選擇的決策；第二，業者應盡量選擇擁有較多具有品牌忠誠度高的顧客的品牌進行聯盟。研討會中獲得各專家學者的意見可作為完稿前的修改建議。由於全文尚在修改中，不便公開，英文摘要請見附錄。

### 四、建議

本人對於本次會議的舉辦地點：巴黎會議宮的場地設備新穎，並有 E-Poster 及電腦終端機供學者們查詢不同 E-poster 的投影片感到印象深刻，因此建議台灣未來若舉辦國際會議可參考此次會議。

### 五、攜回資料名稱及內容

本次開會攜回大會手冊一份：主要是介紹會議地點的交通、每天的發表題目、編號與位置；IAAP 徽章一枚，以及各出版商的簡介。

## 六、其他

本次會議由法國人主辦，在投稿的過程中，與主辦單位有幾次以 e-mail 溝通的經驗，但發現主辦單位的回覆速度非常慢，並且出現許多錯誤：例如，將我的研究發表標題於大會手冊上標示錯誤。我發現與法國人溝通需要耐心，並且他們對於一件事項常常無法聚焦討論，這是下次要參加在法國舉辦的國際會議時所須考量的。

## 附錄：本次發表論文英文摘要

### 1. 發表之第一篇論文英文摘要

*Will a Co-branding Alliance Always Create a Synergy - from the perspective of brand equity ?*

Abstract: From the viewpoint of consumer psychology, we argue that a key factor of co-branding success is a better product-fit in terms of attribute-level complementarity. The objective of this study is to investigate the impacts of attribute-level complementarity on co-branding success. We first define co-branding success, among others, as the occurrence of two effects, namely a synergy effect and a positive spillover effect. Then, assuming attribute-level complementarity exists in a horizontal co-branding setting, we test two hypotheses corresponding to each effect by using a perceptual Consumer-based Brand Equity (CBBE) measure in a laboratory experiment. The experimental results report that attribute-level complementarity may not lead to a “higher-value” co-branded product and may damage both brands’ equity. That is, the synergy and positive spillover effects may not always occur even under the scenario of a better product-fit. In sum, we find that a horizontal co-branding partnership with attribute-level complementarity could be a double-edged sword for the allying brands. The present paper contributes to co-branding literature by showing the connection between affect-transfer of attribute beliefs and co-branding success. For brand managers, our CBBE measure provides an ex-ante evaluation of a proposed partnership.

### 2. 發表之第二篇論文英文摘要

*How does a service failure affect partner selection in co-branding?*

Abstract: Most of previous investigations focus on consumer evaluations of co-branded products, but research on intangible co-branded service is sparse. The objective of this study is to bridge this gap. We answered an important question: when a failure occurs, why could customers have different magnitudes of negative spillover effects across each of the partnering brands? We argued that, except different levels of brand familiarity, different thoughts of self- and other-referencing might be the answer. We adapted the expectancy-value model to validate two propositions. The first proposition argued that the customers may become more upset (i.e., the amplifying effect) when they focus on their own needs (i.e., self-referencing); on the contrary, the second proposition posited that the buffering effect may occur if customers think of the failure from the provider’s perspective (i.e., other-referencing). We claimed that these amplifying and buffering effects may lead to a transfer of magnified negative associations from one brand to the other as well as a free-rider effect of forgiveness, respectively. This research makes two distinct contributions to the research field of co-branding. First, to our knowledge, we are the first to use the theory of self-referencing and other-referencing to clarify the current conflicting findings of the moderating impacts of brand familiarity on the spillover effects on the belief level. Secondly, in contrast to the belief updating models in co-branding, our mathematical model offers an innovative way of explaining the mechanism of customers’ belief updating in a new scenario – service failures. Practical implications are also offered.

# 科技部補助計畫衍生研發成果推廣資料表

日期:2014/09/28

科技部補助計畫	計畫名稱: 雙品牌下服務失敗的外溢效果-建模與分析
	計畫主持人: 李嘉林
	計畫編號: 102-2410-H-004-181- 學門領域: 行銷
無研發成果推廣資料	

102 年度專題研究計畫研究成果彙整表

計畫主持人：李嘉林		計畫編號：102-2410-H-004-181-					
計畫名稱：雙品牌下服務失敗的外溢效果-建模與分析							
成果項目		量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）	
		實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比			
國內	論文著作	期刊論文	0	0	100%	篇	本研究已於 2014 年 7 月於 ICAP 會議中報告，目前正處於增進數學證明的嚴謹性並增加數值實驗 (numerical experiments) 的階段。本人擬改進以上項目後，將目前研究成果發表在 2015 年 6 月在美國馬里蘭州巴爾地摩所舉辦的 INFORMS 行銷科學學會 (INFORMS Marketing Science) 接受更多的建議與評論，再修訂文稿並投稿之。
		研究報告/技術報告	0	0	100%		
		研討會論文	1	1	100%		
		專書	0	0	100%		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力 (本國籍)	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
博士後研究員		0	0	100%			
專任助理		0	0	100%			
國外	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	0	0	100%		
		專書	0	0	100%	章/本	
專利	申請中件數	0	0	100%	件		

		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力 (外國籍)	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		

其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)	無						
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	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與(閱聽)人數	0	

# 科技部補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

達成目標

未達成目標（請說明，以 100 字為限）

實驗失敗

因故實驗中斷

其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文： 已發表  未發表之文稿  撰寫中  無

專利： 已獲得  申請中  無

技轉： 已技轉  洽談中  無

其他：（以 100 字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）（以 500 字為限）

本研究針對雙品牌下的服務失敗的影響進行研究。本研究的研究目標是嘗試著利用自我參照(self-referencing)與他人參照(other-referencing)的兩個不同的思考模型連結在雙品牌下消費者對服務失敗的信念調整過程；並藉由此連結試著提供雙品牌業者發生服務失敗時的對應策略。本研究對於雙品牌的學術研究的領域有三個主要貢獻：第一，就我們所知，本研究為第一個使用他人參照來解釋為何在此情境下服務失敗的影響會減小；第二，相較其他「信念更新」模型(李與戴克，2009)，本模型應用「信念更新」於一個新領域-服務失敗；第三，本研究勾勒出他人參照與「同理心」的關係，並藉由模型強調「同理心」對於雙品牌服務挽救(service recovery)的重要性。本研究可再進一步發展實證計量模型，進而對台灣企業的經理人提供一個雙品牌聯盟管理與服務失敗問題解決的決策指標。本研究目前擬經由(1)增強數學證明的嚴謹性與(2)加入數值模擬(Numerical Simulation)的部份之後，投稿參加 2015 行銷科學會議(INFORMS Marketing Science)接受批評建議，並於修改後投稿至國際性的行銷學術期刊(目前鎖定 Marketing Letters)。