B2B brand extension to the B2C market—The case of the ICT industry in Taiwan

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Keywords

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Abstract

Brand extension has been recognised as a strategic asset by most companies. Faced with razor-thin margin pressures, many Asian companies are seeing the eminence of extending their successful business-to-business (B2B) brands to the business-to-consumer (B2C) market. In this paper we examine the role of the perceived fit between a parent B2B brand and its extension product. We apply the Aaker and Keller's consumer evaluation model with the residual-centring technique to empirically assess the fit extension. The investigated B2B parent brands investigated here include four electronics companies in Taiwan that total more than 50 per cent of the information communication technology manufacturing capacity worldwide. Our results show that the consistency of brand concepts between the parent B2B brand and the B2C extension product is the dominant factor influencing consumer evaluations. Consumers tend to have high evaluations of extended products when the parent brands have (1) high-quality perceptions; (2) high perceived innovativeness; and (3) high capability in transferring skills or assets. This corroborates previous consumer evaluation research on B2C brand extension.

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INTRODUCTION

Brand extension has been recognised as a strategic asset by most companies. Since the original study of Aaker and Keller,[1] research on brand extensions has mostly focused on what causes an extension's success.[2,3] Analogous to consumer marketing, branding is considered as a leverage of sustainable competitive advantage in business-to-business (B2B) environments.[4,5]

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In addition to consumer-based brands such as Coca Cola, Nokia and Nike, industrial brands such as Intel, AMD and GE are considered on the top brands as well.[6] The inherent attractiveness of an industrial brand allows the customer–manufacturer or the customer–artisan to acutely identify and select a supplier brand, especially where repeat purchase decisions rely heavily on past performance.[7]

Brand identity is a set of brand associations that the brand strategist aspires to create or maintain.[8] In the consumer markets, the emphasis is usually on the products or a cluster of products, whereas in industrial markets the company name itself is often the brand name.[9] Chernatony[10] argued that brand concept is context independent; thus, the concept of the corporate brand is the same as the concept of the product or service brand (it is the enactment that is different). Since the last decade, the focus of branding research has been extended from consumer products to corporate brands.[11,12] Empirical studies showed that industrial companies have recognised the benefits from using brand names[13] such that a price premium can be obtained due to high brand equity.[14] The 'halo effect' of brand equity, in which brand evaluations transferred from one category to another, was explored in the personal computer, copier, fax machine and floppy disk industries.[15]

Brand extension is defined as a current brand name used to enter a completely different product class.[16] Most brand extensions have been in the consumer markets, though there are consumer brands that are extended from their original B2B brands such as Microsoft (BASIC computer programming language), IBM (tabulating machines), Nokia (forestry), Philips (carbon-filament lamps) and Caterpillar (heavy equipment). Nowadays, many B2B corporate brands, such as Intel, Dupont, Lycra, Kingston, Micron and Qualcomm are as famous as many consumer product brands.

For many Asian information communication technology (ICT) companies, especially those from four small tigers (Hong Kong, Korea, Singapore and Taiwan), the primary issue is not to extend product specialties but rather to build a strong brand name. Those 'born globals' from SMOPEC (small and open economies) in general lack financial, marketing and managerial capabilities to expand into the global market.[17,18] For example, Taiwan manufactures 80 per cent of notebook PCs, 78 per cent of IP phones and 70 per cent of liquid crystal display (LCD) monitors on the worldwide market,[19] yet most of their finished products are under globally recognised names such as Dell, HP, Motorola, Apple, Sony and Microsoft. For those original equipment manufacturer (OEM) or original design manufacturer (ODM) companies, the challenge is whether they can extend their excellent manufacturing capability to market acceptance under their own brand names.

In this study, our goal is to gain a better understanding of the aforementioned issues. Past literature has suggested different paths for those born globals to reach business space include product distributions, collaboration networks, internet infrastructure and channel branding such as OEM, ODM and private labels.[20,21] Our focus is on the critical role of channel branding, as well as the capability of manufacturing and product-brand extensions, for this unique breed of SMOPEC-born globals. The approach we adopt here is to replicate the brand equity model of Aaker and Keller[22], which aims to investigate a consumer's attitude toward B2B brand extension on the business-to-consumer (B2C) market (hereinafter called the brand extension from B2B-to-B2C) for the ICT industry. We begin with a review of

previous literatures on brand extensions and then generate hypotheses for B2B-to-B2C brand extensions. We then describe the methodology (including selection of brand extensions) and measures of acceptance before conducting our empirical investigation. Subsequently, we report on the transferability of B2B brand extensions at both the aggregate and individual extended levels, and end with a discussion and concluding remarks.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Brand extension links the new product with a known brand or company name so as to generate consumer acceptance for a new product.[23] The success of a brand extension is therefore determined by how consumers evaluate the brand.[24] The use of the established brand name on the new brand extension product provides a signal to the consumer about the qualities or characteristics of that new product.[25]

Keller and Aaker[26] argued that corporate marketing activities affect consumer evaluations of extensions through their impact on corporate credibility. They examined brand extensions outside the current brand offerings in three types of attributes, that is, marketing activities related to product innovation, environmental concern and community involvement. Their findings suggest that corporate marketing efforts can bring benefit by improving perceptions and evaluations of a corporate brand extension. Therefore, creating a positive image and executing a corporate brand strategy can thus facilitate new product acceptance.

Aaker and Keller[27] further acknowledged three factors in the consumers' brand extension evaluation model: brand attitude association, similarity or 'fit' between the parent brand and the extensions, and perceived difficulty of making the extension. Cognitive consistency and categorisation theory have been mentioned to support the importance of similarity or 'fit' between the original brand and the extensions. The categorisation theory suggests that a consumer would evaluate a brand extension either by piecemeal processing (an extension evaluation is a function of inferred brand attribute beliefs and their evaluation importance) or by category-based processing (an extension evaluation is a function of some overall attitude toward the original brand). Specifically, if consumers perceive a 'fit' between the original and extension product classes, with category-based processing they would transfer quality perceptions to the new brand extension. Likewise, if consumers perceive a similarity between the industrial company parent brand and the extended consumer product, with the piecemeal processing they tend to transfer the quality of the parent brand to the new extensions. Although the above theories are used to explain the evaluation process of the brand extension, most studies were exploratory and hypothesised that brand extension attitudes are influenced by the perceived quality of the brand name, the fit between the two product classes and interaction of the two.

Research on brand extensions explores the perceived success factors of an extension at the aggregate and individual levels.[28-30] Such factors centre on (1) the consumer's overall brand attitude, which is usually conceptualised in terms of the perceived quality of the extension; (2) the perceived fit between the parent and the extended product categories; (3) the difficulty in designing and making the extension; (4) the extent to which the perceived applicability of the skills and assets can be transferred; and (5) the

interaction between the perceived quality of the parent brand and the relationship or fit between the parent brand and the extension product categories. In their thorough literature review, Völckner and Sattler[31] have identified ten potentially success factors that influence brand extension. These include retailer acceptance, marketing support and history of previous brand extension, among others.

Industrial company brands are primarily established on their brand identity over the distribution networks rather than on the specific product.[32] Because of frequent transactions, brand awareness was found to have no direct relationship with subsequent evaluations.[33] Other factors such as brand width (eg number of brand categories), strength (eg discounted brand earnings), emotion (relationship between the potential user and the brand) and function (including positioning, information abstracts, security and value added), which were used in the previous brand extension studies, are irrelevant to the B2B-to-B2C extensions, and are therefore excluded from this study.

Perceptions of quality toward the parent brand

Perceived brand quality is the global consumer assessment of a product's superiority or excellence of a product.[34] Aaker and Keller [35] found no significant correlation between the perceived quality of the parent brand and brand extension. Sunde and Brodie[36] and Bottomley and Holden[37], however, replicated Aaker and Keller's model and instead found a direct positive relationship between quality perceptions of the parent brand and its extensions. Bottomley and Holden argued that Aaker and Keller's model ignored the problem of multicollinearity, namely that cultural differences will influence the relative importance of evaluation factors. Keller and Aaker[38] (1997) suggest that corporate brand equity lies in the association of consistent delivery of superior functionality and performance such that consumers or suppliers are allegiant with the firm's offering. As the perceived quality of the corporate brand is higher, the transfer of positive attitudes toward the extension is expected to be higher. Therefore, we propose here that the perceived overall quality or superiority of the parent brand is an important factor in B2B brand equity, and that this perception might affect consumer evaluations in the B2C extensions. Therefore, we hypothesise the following:

H_1: *Consumers will evaluate the B2C extension product in a favourable manner if the perceived quality of the parent B2B brand is high.*

Factors associated with perceived competency of the parent brand

Keller and Aaker[39] examined different types of corporate marketing activities and found that activities related to product innovativeness provided the most valuable enhancements to a corporate brand extension while activities related to environmental concern had only a modest impact. Many industrial brands, however, are often thought of as the source of environmental pollution: waste and pollution contaminates and byproducts of producing industrial components such as semiconductor wafers and LCD panels. This negative image might perpetuate an unfavourable attitude toward the industrial brand. Therefore, we formulate the following two hypotheses:

H_2: *The perceived innovativeness toward the parent B2B brand is positively associated with the attitude toward the B2C extensions.*

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H_3: *The perceived environmental friendliness toward the parent B2B brand is positively associated with the attitude toward the B2C extensions.*

Difficulty factor related to the extension product

The other brand-associated factor that influences consumer evaluations of brand extension is the perceived difficulty that the firm may have in designing and producing the extension. Aaker and Keller found that the consumers' perceptions of the difficulty of making the extension had a positive relationship with evaluations of an extension.[40] As a B2B company devotes into the consumer products that is outside its current offerings, the new investment is riskier than a 'normal' brand extension. Under such uncertainty, it is reasonable to assume that the consumer might perceive oppositely on the success or good quality product the company will offer and hence decrease the B2C brand image. Therefore, we hypothesise that:

H_4: *The perceived difficulty of the parent B2B brand in extending to the B2C market is negatively associated with the attitude toward the B2C extensions.*

Factors associated with the fit

The fit between the parent brand and the extension refers to the consumer's judgment of whether the new product will be accepted as a valid alternative to existing products.[41] This perceived product class fit can be measured in three dimensions: (1) complementarity, or the extent to which the parent and the extension categories are jointly employed to satisfy the same particular need; (2) substitutability, or the extent to which products are interchangeable in use and satisfy the same needs; and (3) transferability, or the extent to which the skills and assets associated in making the parent product can be transferred to the extension product category.[42] Transferability and complementarity were found to be more important as predictors of class fit than substitutability. Moreover, there is a negative relationship between complementarity and substitutability. Therefore, a fit on either transferability or complementarity is adequate. Only transferability is used in the present study.

Brand concept refers to the image that consumers hold regarding a particular core brand and affects consumer's perception of fit between the brand and the extensions.[43] Product features are attributes that can vary from concrete levels to abstract levels. Brand concepts are brand-unique abstract meanings (eg Rolex, a symbol of luxury and high status) that typically originate from a particular configuration of product features (high-price, expensive-looking design) and a firm's efforts to create meanings from these arrangements.[44] Therefore, consumers' evaluations of brand extensions are influenced not only by feature similarity but also by brand concept consistency. Whether an extension product is concept-consistent depends on how it can accommodate a certain brand name concept, and in turn, on consumers' perceptions of whether the brand concept associations are potentially relevant and/or desirable in connection with a particular product.

Furthermore, the effect on consistency of brand concept increases with the prestige of the brand (ie self-image or value expressions such as status symbols, wealth, luxury, fashion, etc) rather than on the functions of the brand (ie durability, reliability, practicality, utilitarian, value, etc.). The positive association between the B2B brand and the B2C extension could

contribute to the success of a brand's extension.[45] Although the consistency of brand concept seems transferable to the industrial product, the dimension of similarity is irrelevant. This yields the following two hypotheses:

H_5: *Consumers will evaluate the B2C extension product in a favourable manner if the perceived brand consistency between the B2B product and the B2C extension is high.*

H_6: *Consumers will evaluate the B2C extension product in a favourable manner if the perceived transferability of the parent B2B brand toward effectively designing and producing the B2C extension is high.*

Interaction factors

Other than direct effects of factors influencing the attitude toward the brand extensions, Aaker and Keller also found that the perceptions toward the parent brand and the fit between the parent and extension product classes had an interactive effect on the final evaluations of a brand extension as well.[46]

The fit between the parent B2B brand and the new B2C extension classes might also have a positive effect on the attitude toward brand extensions. As a complementary or substitutive relationship between the parent product and the extension categories is not applicable in the B2B-to-B2C extension, we consider the interaction effect with the factor of brand concept consistency instead. In addition, the interaction between transferring skills and assets from B2B-to-B2C products and the perceived quality during the transfer are also examined. We formulate the following two hypotheses related to these interactive effects:

H_7: *The interaction effects of perceived brand quality and brand concept consistency between the parent B2B brand and the B2C extension will influence consumers' evaluation on the perceived quality of the parent brand and the B2C extension product.*

H_8: *The interaction effects of perceived brand quality and the perceived transferability of the parent B2B brand to effectively employ its skills and assets in designing and producing the B2C extension will influence consumer's evaluation on the perceived quality of the parent brand and the B2C extension product.*

The above two interaction effects state that consumers' evaluations of the perceived quality will be affected by the brand concept consistency between the parent B2B brand and the B2C extension (H_7) or perceived transferability of the parent B2B brand to effectively employ its skills and assets in designing and producing the B2C extension (H_8). These two hypotheses describe the interaction effects.

METHODOLOGY

We first conducted pretests aimed at selecting appropriate stimuli to investigate and then developed questionnaires for the selected stimuli that measured the hypotheses discussed in the previous section. The test subjects were national university graduate students in Taiwan. The data collected from the survey were then used to model the consumer evaluations of brand extensions.

Selection of stimuli

Taiwan ranks as the world's third most competitive economy in terms of innovation according to the 2005–2006 WEF

Table 1 Fit measure of brand extensions

Extension products	Average score	Extension products	Average score
Hon Hai (Foxconn)		*Media Tek*	
Notebook computer	**4.16**	**DVD recorder**	**4.21**
MP3 personal stereo	**3.27**	Liquid crystal television	3.71
Laser printer	2.43	MP3 personal stereo	3.31
Stereophonic	2.01	**Digital set-top box**	**2.96**
Digital camera	**1.65**	**Compact disc**	**1.79**
AUO		*Quanta*	
Liquid crystal television	**4.68**	**Personal computer**	**4.45**
Digital camera	**3.11**	PDA	3.52
Intelligent mobile	2.63	**WEB CAM**	**3.06**
Scanner	2.32	Base station for wireless network	2.54
GPS satellite positioning system	1.52	**Computer screen filter**	**2.01**

Bold: Selected extension products with high, medium and low scores.

competitive survey.[47] The electronic industry comprises a third of Taiwan's national production. Most of the electronic manufacturers in Taiwan are export-oriented and are known as OEMs, ODMs or outsourcing contractors with high production flexibility and efficiency. These manufacturers are familiar to the Taiwanese public in spite of their primarily B2B environment; indeed, very few have marketing products with their own brand names.

Pretests were conducted to identify possible B2C product categories from the parent B2B company names. The criteria used to select these stimuli were (1) a test item's relevancy to the subject, (2) the perception of a parent brand's quality and (3) the ability of the parent brand to elicit relatively specific associations.[48] Four industrial brands were selected: (1) AUO, Taiwan's largest and the world's third largest manufacturer of thin LCD; (2) Hon Hai (registered trade name of Foxconn), the largest manufacturer of connectors (used in PCs and notebooks) in China; (3) Media Tek, a worldwide leading supplier of IC chipsets and digital televisions; and (4) Quanta Computer, the largest notebook manufacturer in the world.

These four companies have many similar features. All are concerned with a high standard of product quality and with their ability to innovate. Each company also ranks in the top 50 of Taiwanese companies in terms of annual sales (with Hon Hai ranked first, Quanta third, AUO twelfth and Media Tek 35th in 2005).[49]

Open-ended associations were obtained for the extensions for each of the four parent brands. A pretest was conducted using 33 subjects. Respondents were asked to list the associations for each of the four brands and score these associations using the five-point Likert scales (1 = low fit, 5 = high fit). To widen the differences of fit measures among product categories, associations with high, medium and low fits for each of the four brands were selected (Table 1).

According to our respondents' extension fit association, Hon Hai can extend to notebook computers, MP3 players and digital cameras; AUO can extend to liquid crystal televisions, digital cameras and GPS satellite positioning systems; Media Tek

can extend to DVD recorders, digital set-top boxes and compact discs; and Quanta can extend to personal computers, web cameras and computer screen filters.

Measurement of brand extension

All measurement items of brand extension were taken from previous studies[50,51] and used a seven-point scale Likert scale. *Quality perception* (*Q*) indicates a consumer's perception toward the overall quality of each parent brand (ranging from 1 = inferior to 7 = superior), that is, the overall brand attitude. The dimension of *transfer* (*T*) indicates the perceived ability (1 = strongly disagree, 7 = strongly agree) of the firm operating in the first product class to another product class. *Brand concept consistency* (*C*) measures the extent to which the consumer perceives the extension to be consistent with the parent brand (1 = very inconsistent, 7 = very consistent).

Product innovation (*I*) denotes the consumer's perception of the parent brand as an innovator in research, design, new technology and services (1 = low innovation, 7 = high innovation). *Environmental concern* (*E*) refers to the consumer's perceptions of the B2B firm's environmental concern during the production process and use of material inputs (1 = total neglection of environmental protection, 7 = emphasis on environmental protection). *Difficulty* (*D*) presents the perceived difficulty of making the extension (1 = not at all difficult, 7 = very difficult).

Finally, *consumers' evaluation* (EVALUATION) of the brand extension is measured with two variables: the perceived overall quality of the extension (1 = inferior, 7 = superior) and the likelihood of purchasing the extension (1 = not at all likely, 7 = very likely). The average of these two variables is used to represent the *consumers' evaluation* of the extension.

The questionnaire consisted of the four industrial brands (Hon Hai, AUO, Media Tek and Quanta) and 12 plausible extensions (MP3 player, liquid crystal televisions and digital cameras, etc). A subject's overall perception of the quality, innovativeness and environmental concern of each of the four parent brands was measured first. Then the fit, difficulty and overall evaluation of the brand extension were measured for each company.

To avoid confounding the reactions with the extensions, the only information given to the subjects was the brand name. No information about the quality of the brand or specific product was provided.[52] Pretests with 15 subjects confirmed that the test contents, description, phrasing and sequence of questions were appropriate.

Similar to Aaker and Keller and other replicated studies, the subjects in the study were university graduate students in Taiwan. The questionnaire was posted on the university's laboratory website and was easily accessible to the students. Each subject was asked to answer the questions about the four industrial brands and their associated extensions. The reliability of the measurement scales was justified with Cronbach's alpha (most $\alpha > 0.6$), and their validity was verified by factor analysis.

Modelling consumer evaluations of brand extensions

The regression model with residual centering can be written as

$$\begin{aligned}\text{EVALUATION} = {} & \beta_0 + \beta_1 Q + \beta_2 I + \beta_3 E + \beta_4 D + \beta_5 C \\ & + \beta_6 T + \beta_7 QC_{[\text{residual}]} + \beta_8 QT_{[\text{residual}]} + \varepsilon\end{aligned}$$

where EVALUATION is the average of the perceived quality of the extension and the likelihood of purchasing the extension, Q (for testing H_1) is the overall perceived

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quality toward the parent brand, I (H_2) and E (H_3) are the perceived innovativeness and environmental concern of the parent brand company, D (H_4) is the perceived difficulty of making the extension, C (H_5) and T (H_6) are the fit measures for consistency of brand concept and transferability of skills and assets, respectively, and QT (H_7) and QC (H_8) are interaction or moderator terms between the perceived quality and brand concept transferability or consistency, respectively.

As some terms interact with each other, we first examine the multicollinearity of the regression model. The variance inflation factors (VIF) indicate a high degree of multicollinearity among variables (VIF>10, the critical cutoff suggested by NKNW[53]). Therefore, the 'residual centering' approach, as suggested by Lance,[54] was adopted to diminish the degree of multicollinearity.[55] During the first stage, each interaction term (say, QT) was treated as an independent variable regressed by the two respective component variables (Q and T). The residuals ($QT_{[residual]}$), which capture the variance associated with the interaction term that is not explained by the respective component variables, are then used to replace the interaction term (QT) in the regression model during the second stage. In the present study, multicollinearity was eliminated after the residual centering process (all VIF values between 1.0 and 1.9).

RESULTS AND FINDINGS

We have collected 162 subject responses on 12 product extensions, making for a sample size of 1,512. The results of the aggregated regression model including both main and cross effects are presented in Table 2; individual brand levels are reported in Table 3.

Regarding H_1, we find that the perceived quality (Q) toward the parent brand is significantly high (beta coefficient of 0.11; $p < 0.000$). This supports hypothesis H_1, namely that the inferred attribute beliefs enhance the evaluations of a B2B-to-B2C brand extension. At the individual brand level, there is also a positive correlation between the perceived quality of the parent B2B brand and the attitude toward the B2C extension for all four parent

Table 2 Aggregate regression model of the consumers' evaluation of the B2B-to-B2C brand extension

Independent variable	Standardised regression coefficient	Regression coefficient	t-value
Q (perceived quality of parent brand)	0.116	0.129	5.39***
I (perceived ability in product innovation)	0.127	0.130	5.83***
E (commitment to environment protection)	0.002	0.003	0.15
D (difficulty of making extension)	−0.157	−0.126	−9.03***
C (brand concept consistency between the parent brand and the extension)	**0.541**	**0.423**	26.70***
T (transfer of skills/assets from parent to extension product class)	0.149	0.120	7.16***
QC (interaction term between quality perception with brand concept consistency)	0.062	0.044	3.40***
QT (interaction term between quality perception with transfer)	0.006	0.004	0.31
Sample size=1512			
Adjusted r^2=0.63			

***$p < 0.001$

Bold values represent highest influential factors.

Table 3 Regression results for individual industrial brands

Independent variable	Standardised regression coefficient			
	AUO	**Hon Hai**	**Media Tek**	**Quanta**
Q (perceived quality of parent brand)	0.129**	0.207**	0.064	0.121**
I (perceived ability in product innovation)	0.056	0.121	0.091**	0.235***
E (commitment to environment protection)	0.025	0.017	−0.010	0.002
D (difficulty of making extension)	−0.152***	−0.011***	−0.077	−0.176***
C (brand concept consistency between the parent brand and the extensions)	**0.597*** **	**0.423*** **	**0.712*** **	**0.473*** **
T (transfer of skills/assets from parent to extension product class)	0.155***	0.205***	0.096*	0.094*
QC (interaction term between quality perception with brand concept consistency)	−0.002	0.022	0.115*	0.123**
QT (interaction term between quality perception with transfer)	0.015	0.019	−0.042***	0.037
Sample size=378				
Adjusted r^2=0.63	0.69	0.67	0.74	0.50

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
Bold values represent highest influential factors.

brands except for Media Tek. For H_2 and H_3, our results indicating perceived innovativeness (*I*) is significant ($0.12, p < 0.001$), but that the environmental concern (*E*)[56] is not (0.002). At the individual level, the perceived innovativeness is significant for Media Tek and Quanta but insignificant for Hon Hai and AUO, and the environmental concern is insignificant for all four brands. This indicates that consumers are more impressed with Hon Hai's product quality (with a substantial beta coefficient of 0.207) but not with its innovativeness (0.121). As for AUO, consumers may perceive the company as only moderately innovative (0.025) because Japanese (Sony) and Korean (Samsung) firms own the key technologies in LCD panels.

With respect to H_4, the perceived difficulty of making the extension (*D*) has a significant negative beta value (-0.157, $p < 0.001$). This finding is opposite to our hypothesis and also to the results of Aaker and Keller's results.[57] For industrial companies, this implies that leveraging B2B brands to produce B2C products can be an arduous process. Consumers believe that the difficulty of designing and producing the new product class would hinder the B2B brand from achieving a quality extension.

With respect to H_5 and H_6, the results suggest that there is a significant fit between the parent brand and the extension when it comes to the consistency (*C*) and transferability (*T*) of the brand concept. In particular, the consistency of brand concept (*C*) is much more substantial (0.541, $p < 0.001$) than all other variables. This suggests that the close associations between the parent B2B brand and the extensions may equate to more consumer confidence with new cross-sector extensions. At the individual level, the coefficients of fit-related variables for the four industrial brands are all significant.

Finally, with regard to interactions H_7 and H_8, we find a significant interaction between perceived brand quality and consistency of brand concept (*QC*; 0.062, $p < 0.01$) but not between brand quality and the transferability (*QT*). The results suggest that the effect of high perceived quality for the original brand on the

Table 4 Factors affecting consumer evaluations at the aggregate level: a summary

Factors/brand extension	B2B-to-B2C	A&K*	K&A**	Park *et al.***
Perception toward quality of parent brand	(+)	×		
Perceived innovativeness of the competent company	(+)		(+)	
The extent of environment concern	×		×	
Difficulty of making extension	(−)	(+)		
Brand concept consistency	(+)			(+)****
Transfer of skills/assets	(+)	(+)		
Interaction term between quality perception with brand concept consistency	(+)			
Interaction term between quality perception with transfer	×	(+)		

(+) significantly positively correlated; (−) significant negatively correlated; and × insignificantly correlated.

*Aaker and Keller (1990).[1]

**Keller and Aaker (1997).[38]

***Park *et al.* (1991).[41]

****For prestige products.

acceptance of a brand extension will be strengthened if there is brand concept consistency between the parent B2B brand and the B2C extensions; yet the effect is not affected by the perceived transfer between the two categories. At the individual level, there is significant interaction between perceived brand and concept consistency (*QC*) for Media Tek and Quanta, whereas the interaction between brand quality and transferability (*QT*) is only significant for Media Tek.

CONCLUSIONS

Consumers are familiar with a firm's strategy of introducing new products through brand extension.[58] The coefficients of determination for brand extension models in previous studies have been increasing since Aaker and Keller (0.26), Sude and Brodie (0.48), Nijsen and Hartman (0.49), Bottomley and Doyle (0.48) and van Riel *et al.* (0.58).[59–63] In the present study, the resulting high coefficients of determination (>0.50) at both the aggregate and the individual levels indicate that a positive attitude toward a consumer-based brand extensions is indeed transferable to industrial brand-consumer product extensions. The findings are, however, mixed when compared to traditional consumer-based brand extensions (Table 4). At the aggregate level, the fit variables have the most substantial impact on the extendibility for industrial brand to consumer products. This is similar to the findings of Völckner and Sattler,[64] which assert that consistency of brand concept (*C*) is more effective on consumer evaluations toward the B2B-to-B2C brand extensions than is the transferability (*T*) of skills or assets. In addition, the perceived image of quality for the parent B2B brand extended to B2C products was strengthened when there was a high brand concept consistency. The extent of transferring skills or assets in producing the extension, however, had little effect on the image of perceived quality for the parent B2B brand extending to B2C products. This contrasts to that of the consumer-based brand extension. It appears that brand concept consistency is more important as

a dimension of fit than the transferability of skills or assets in consumer evaluations of B2B-to-B2C brand extensions.

The difficulty of making the extension (*D*) shows a negative relationship with the attitude toward the B2B-to-B2C brand extension. This exhibits the consumer's concern of the capability of the B2B brand to enter into consumer markets, which might require other complicated skills. In other words, consumers tend to accept the cross product-class extension only if the extended consumer product is easy to produce and to market.

At the brand's individual extension level, the brand concept is the dominant factor that affects consumer evaluations of the B2B-to-B2C brand extension. In addition, brand concept consistency and the transferability of assets from the parent to the extension are the only two factors that influenced a respondent's attitude toward the B2B brand to B2C extension across all four industrial brands. This indicates that the fit is the most important factor for brand extension. The results show that there is an opportunity for industrial companies to leverage brand equity to consumer markets if the concept of the extension product is consistent with the parent brand.

We applied the regular B2C brand extension model in a special case in the ICT industry in Taiwan where consumers are familiar with the selected leading OEM/ODM firms. There is a constraint for those OEM/ODM firms to establish their own B2C brand names outside the industrial channel networks. For the fierce business space such as USA and EU, the end-user markets are controlled by the global brand names such as Dell, HP and Apple, and consumers do not have any clue to associate those suppliers with the end products. Nevertheless, this paper suggests that Aaker and Keller's[64] brand extension model can be a possible path for B2B firms to expand into B2C extensions.

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