

# THE INFLUENCE OF LINE EXTENSION STRATEGIES BY PREMIUM BRANDS ON BRAND EQUITY: CULTURAL DIFFERENCES BETWEEN GERMANY AND THAILAND

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## **Abstract:**

*Premium markets are expected to outperform other markets throughout the near future. Thus these markets are of high importance for marketers, who already face challenges to manage premium brands due to the hazard of a possible dilution of user's sense of exclusivity and pride. Premium brand managers must know when it is best to take a pass on short-term growth opportunities that could tarnish the brand's long-term health. Line extensions embody one of the most frequently used vehicles for growth to meet global consumer needs. Though they have advantages, also risks are associated with them. Consequently, the purpose of this study is to identify the influence of line extensions on brand equity in culturally different spheres. The study focuses on premium brands from the automotive industry and asks if and in how far different – vertical (different price & quality level) and horizontal (same price & quality level) – line extension strategies influence brand equity differently among cultures. A one group pre-test post-test research design is used to measure brand equity before and after an existing brand's (hypothetical) extension. A structured online survey with page logic collected primary data from four hundred students in Germany and Thailand recruited by a matched sampling technique. Culture has to be added to brand equity models as results show distinctive changes of brand equity for both Germany and Thailand. While after vertical downscale extensions, brand equity increases in Germany, it decreases in Thailand. Hence, the research results in managerial recommendations which assess if product policy strategies should be thought 'regionally' or 'globally'.*

**Key Words:** premium brand, brand equity, horizontal line extension, vertical line extension, culture, Germany, Thailand.

## **1. Introduction**

How to grow a premium brand? This is an essential and nowadays frequently asked question by automotive managers, especially as premium brands outperform the automotive markets. The introduction covers, together with an overview of the automotive premium market in Germany and Thailand, prior research and the outline of the article.

The automotive industry is a key sector for Thailand's and Germany's national economies. In 2015, the output in Germany grew by 2.1% to more than 6 million vehicles produced; in Thailand, production increased by 1.9%.

Global worldwide car sales rose constantly from 75 million in 2010 to 90 million units in 2015. In 2015, approximately 66.5 million passenger cars were sold worldwide.

Despite a 9.3% overall market downturn in Thailand in 2015 (partially due to major players such as Toyota who lost market share), premium and luxury brands continued to grow: Mercedes increased its market share in the passenger car market by 1.2 pp to 4.2% and BMW increased its market share by 0.5 pp to 2.9% ("Sales figures Thailand", 2016). In Germany, all five premium brands from the brand basket (brands used in this research): Audi, Mercedes, BMW, Volvo and Lexus increased sales in 2015. Volvo and Lexus even reached the two-digit area ("Sales figures Germany", 2016).

Since many years, targeting new markets with new products is a growth strategy for multinationals. Line extensions are one heavily used instrument to grow premium brands sustainably while simultaneously reduce risks in doing so. Reduced risk and other advantages of line extensions explain why line extensions have been – besides mergers and acquisitions – the biggest growth mechanism in recent years (Wölfer, 2004).

Recently, a major premium car manufacturer announced a line extension never carried out before by its competitors: Mercedes-Benz intends to soon launch a pick-up car.

Nowadays, the segment of mid-size pick-ups is in transition worldwide – with an increasingly proportion of privately used pick-ups – with both private and commercial users searching for car typical characteristics ("Mercedes-Benz to launch midsize pickup, 2015"). As a premium manufacturer, Mercedes-Benz reacted quickly to these market changes with the development of its own pick-up, seeking to completely redefine the segment of popular all-round pick-ups with an approximately one-ton payload ("Mercedes-Benz to launch midsize pickup", 2015).

With several first step and second step target markets, the question arises in how far premium brands' line extensions could influence the premium brands' equity, and if so, whether it affects it differently among cultures. Could line extensions also result in a negative impact on brand equity? Hence, managers might ask themselves if product policies should be thought locally or globally.

Prior research already identified success factors for line extensions. While there is an extensive research on brand extensions, line extensions are far less researched. Past research can be divided into three main streams: research which analyses characteristics of the parent brand, research on the extension itself and research which focuses on external market characteristics.

Nijssen (1999) indicates that late line extensions by strong parent brands perform better than late line extensions by less strong parent brands and that high-quality brands perform better in terms of extensions because they can stretch farther (Keller & Aaker, 1992). Low equity brands are not able to differentiate into a new product category if labelled with a trivial attribute, while high equity brands are able to (Broniarczyk & Gershoff, 2003). Brand strength is essential to expand in diverse categories, to attract many consumers, who firstly are willing to pay more and recommend the brand (Fedorkhin, Park, & Thomson, 2008; Rangaswamy,

Burke, & Oliva, Terence, 1993), and secondly, evaluate the brand which evoke a strong emotional reaction by their first impression. This first impression overwrites the similarity between the parent brand and its extension (Yeung & Wyer Jr., 2005). Extendibility of the parent brand also depends on its brand concept. Prestige brands are more likely to be able to successfully extend into new product categories that are farther away from the original product category (Park, Milberg, & Lawson, 1991). This difference in extendibility lays in the better ability to stretch the attribute 'prestige', while functional attributes are centred around the original product category (Park et al., 1991). If prestige brands or functional brands are extended vertically, the evaluation of owners distinguishes from non-owners (Kirmani, Sood, & Bridges, 1999). Regardless of prestige or non-prestige brand, parent brand experience also referred to as brand knowledge can dominate brand affect or similarity (Broniarczyk & Alba, 1994; Swaminathan, Fox, & Reddy, 2001). If a brand wants to expand in its product category very far, it may make sense to first stop at an interim stage as an extension can increase the parent brand's strength, favourability, or uniqueness of associations (Balachander & Ghose, 2003; Keller, 2013; Swaminathan et al., 2001). Loken & Roedder John (1993) found that a parent brand which extends the brand in a similar product category with a product of lower quality reduces the perceived quality of the parent brand. In contrast, perceived quality of parent brand remains at the same level if a brand extends into a dissimilar product category (Loken & Roedder John, 1993; Roedder John, Loken, & Joiner, 1998; Romeo, 1991).

Common associations tend to have a higher 'fit' than more special product category associations (MacInnis, Nakamoto, & Mani, 1992). The similarity does not necessarily need to be based on the product itself, but an extension can also fit into a brand concept. (Bridges, Keller, & Sood, 2000). Another extension characteristic is the direction of the extension. Extension can also be performed vertically into a different price and quality level – both upscale or downscale. Only high quality products can maximize brand equity as for low quality brands, the quality of the lowest quality product is positively correlated to brand price premium while for high quality brands, the highest quality product is positively correlated to brand price premium (Randall, Ulrich, & Reibstein, 1998). Additionally, Hamilton & Chernev (2010) found that the direction of the extension – upscale or downscale – influence the brand's price image.

Monga & John (2010) found out that the evaluation of brand extensions depends on the way consumers think. Their research distinguishes between holistic and analytical thinkers. While holistic thinkers evaluate distant brand extensions by functional brands more favourably than analytical thinkers, there is no difference observed for prestige brands. Based on the research, individuals with an independent self-construal tend to value uniqueness while individuals with an interdependent self-construal attach importance to relationships (Keller, 2013; Lee, Aaker, & Gardner, 2000; Lee, Keller, & Sternthal, 2010; Markus & Kitayama, 1991), Ahluwalia (2008) postulates that interdependent self-construals have a higher ability to perceive a fit between an extension and its parent brand and therefore increase the likelihood of an extension's success. DelVecchio (2000) found that consumers prefer to buy well-known brands as this reduces their risk. According to this paper, a broad portfolio results, in contrast to other studies, not in

the dilution of the parent brand, but in a potential success of the extension due to the reduced perceived risk by consumers.

### **How do studies measure line extension success?**

Brand extensions as well as line extensions most frequently use psychological evaluations of consumers to evaluate the extension success (Dacin & Smith, 1993; Heath, DeVecchio, & McCarthy, 2011; Hennig-Thurau, Houston, & Heitjans, 2009). Psychological evaluations for brand extensions have been attitudes of consumers towards the brand extension or purchase likelihood (Boush & Loken, 1991; Dawar & Anderson, 1994). So far, market performance based measures have not been analysed frequently to measure line extension success. However, Smith & Park's pioneer study (1992) researched the impact of extensions on market share and other studies researched the impact of line extensions on stock prices (Lane & Jacobson, 1995), future revenues (Basuroy & Chatterjee, 2008), relative market share, share in the product category, sales volume/revenue, years of survival, creation of entry barriers to limit the share of later entrants (Reddy, Holak, & Bhat, 1994) and price premium (Randall, Ulrich & Reibstein, 2000). As this conducted study uses brand equity as a measurement, both psychological evaluations and market-based measures determine line extension success.

Given the prior research described above, no study was conducted yet to analyse the effects of different product line extensions in a cultural context on brand equity. The aim of the present study is thus to compare brand equity changes in Thailand and Germany after premium brands have extended their product lines either horizontally or vertically. To address the subject, theoretical foundations and methodologies will be introduced to then focus on the study, which is divided into Study I, II and III. While Study I and II measure brand equity in a pre- and post-test in Germany and Thailand, Study III compares Study I and II based on the covariate culture. Then, results are presented and discussed and a conclusion unveils both academic and managerial recommendations.

## **2. Theoretical foundations**

### **2.1. Brand Equity**

What is the precise meaning of brand equity? In how far does it dissociate from brand strength and brand value? Brand equity is the value of the brand, not only monetary based, but in terms of the higher revenues the brand can generate due to the assumption that consumers prefer to buy products of well-known brands in comparison to lesser-known brands (Aaker, 1991; Keller, 1993). Kotler & Armstrong (2012) define brand equity as "the differential effect that knowing the brand name has on customer response to the product or its marketing". Brand equity is based on three pillars: 'potential-related success determinants', 'market-based success determinants' and 'economic success determinants' (Homburg, 2012). While all three determinants together agglomerate to brand equity, 'potential-related success determinants' and 'market-based success determinants' add up to brand strength and 'economic success determinants' mirror brand value.

But what determines brand equity? Prior to purchasing a good, brand awareness and brand associations determine brand equity as consumers tend to buy known brands they are aware of and associate positive images to. (Aaker,

1991; Aaker 1990; Homburg, 2012; Kotler & Armstrong, 2012). *Ceteris paribus*, risk averse consumers prefer these known brands. Their decision-making process is easier due to risk reduction because they know what to expect as they are familiar with the brand. If 'potential-related success determinants' induce consumerism, 'market-based determinants' are realized, which are the brand's market share, brand loyalty and possible price premiums. (Aaker, 1996; Homburg, 2012). Brand loyalty increases brand equity because firstly, loyal consumers purchase the brand again which leads to higher revenues, and secondly, they are less price sensitive, which enables brands to charge price premiums – increasing margins and thus profits. Both the brand's revenues and profit are economic success determinants (Aaker, 1991; Homburg, 2012; Kotler & Armstrong, 2012; Kotler, 2000). These economic success determinants define brand value. Besides the revenue and profit, further economic measurements such as the return on sales and marketing costs influence brand value (Homburg, 2012). Brand value is the estimated monetary quantification a competitor would need to pay to buy the brand.

Although measuring brand equity is not easy, marketers and academics have devised several models. Unfortunately, these models often lack quality criteria such as objectivity, reliability and validity. In general, two types of models can be distinguished: models which measure brand strength and models which measure brand value. These models are either single-step (cost-based, profit-based or price premium based) or multi-step models (GfK or Interbrand model). This study's research model is closed and adapted from the so-called 'Brand Equity Ten' by David Aaker, who assumes that brand equity is caused by consumer behaviour itself (Aaker, 1996). This assumption is supported by the author who firmly states that brand equity has its fundament in consumer minds. The 'Brand Equity Ten' is cleft in five main parts. The first part includes loyalty measures, namely price premium and satisfaction/loyalty (*ibidem*). The second part consists of perceived quality and leadership measures (*ibidem*). Thirdly, awareness measures and fourthly, associations and differentiation measures, which are the perceived value, brand personality and organizational associations that determine brand image. Lastly, market share and price and distribution indices sum up to market behaviour measures.

## **2.2. Line extension**

Brand managers can either introduce new brands or stretch a brand by a brand or line extension. A brand extension is the introduction of a new product line under the same brand, while a line extension is the introduction of a new product within the same product line. Line extensions can be performed vertically or horizontally. A horizontal line extension translates into an equal price extension in the same product category while a vertical line extension translates into a differently priced extension in the same product category. (Aaker & Keller, 1990; Homburg, 2012; Keller & Aaker, 1992). The latter does not only distinguish on the price level but also in terms of quality (Allman, 2013; Draganska & Jain, 2005). Line extensions are product variations and product differentiations but also product diversifications which build a new strategic business unit (Homburg, 2012; Wehr, 2013; Wölfer, 2004). While an existing product base can only be differentiated by introducing a new 'spin-off' of the product base, the research added a new product to the line, which entered a new market segment by creating a new strategic business unit (Wehr, 2013). Examples for product line extensions in the automotive industry are the Porsche Cayenne, an SUV, sold by a sports car manufacturer and

the recent trend of more and more premium brands such as Mercedes, Audi and BMW to enter segments below their traditional market segments with new models such as the Mercedes' A-class, Audi's A2 and BMW's MINI (Gottschalk, Kalmbach, & Dannenberg, 2005).

The idea behind a line extension is to sustainably increase revenues by either adding more variations or developing new segments with the types of new products mentioned above (Wölfer, 2004). Line extensions are convincing product strategies as they reduce the marketing budget per product. There is no need for a considerable amount of brand launch and advertisement for one product of the product line also influences and updates the image of other products of the same product line (ibidem). Further advantages are the possible increase in brand competence, life extension, image modification and establishment of market entrance barriers for potential competitors. Besides synergies, line extension can also result in brand erosions and brand destructions. These possible consequences bear several risks. One of these risks is cannibalization, a major threat to a brand's revenues (ibidem). Additionally, and more importantly than possible substitution effects, line extensions can discriminate other products of the line, which has to be prevented by a comprehensive analysis. Despite the analysis, management of product lines can be difficult if one product line satisfies different needs of the market. This dilution in brand positioning lowers the flexibility to react to market shifts.

Line extensions have the highest likelihood to succeed if the brand has a high brand awareness and a strong emotional and symbolic image, if it is intensively supported by advertisements and incentives and introduced earlier than competitors, if it develops new market segments and if the increase in revenues at least surpasses the potential cannibalization (Homburg, 2012; Reddy et al., 1994).

### **2.3. Culture**

"For human beings, culture is like water for fish. It is always there but you never apperceive it. Only if the fish leaves the water it becomes clear that something is missing. This is similar to culture. In foreign countries the habitual manners do not fit anymore with the result that you have to adapt yourself to different situations." (Blom & Meier, 2004). In other words, culture is a group's instinctive beliefs, values and norms, which can mostly only be experienced when opposed to another one. Geert Hofstede's comprehensive research with its cultural dimensions enables to highlight differences between Germans and Thais. Hofstede's model displays differences in cultures on four of the six scales. While Thailand is a high power distance society (65), Germany is a low power distance society (Hofstede & Hofstede, 2005). The equality of rights regardless of status in society constitutes low power distance in Germany which is mirrored by a strong middle class to which more than 50% belong to in Germany even if the middle class shrank over the past decade (Koch, 2012). A high social mobility prevails as Germans respect people for what they do instead of who they are. Status symbols are disliked, yet even proscribed.

On the contrary, Thai culture has an ingrained hierarchical system, partially embodied by a constitutional monarchy with many coup d'états. Thais accept inequality among members of the society, often anchored in huge salary gaps between superiors and subordinates and a dependency of subordinates on superiors. However, this paternalistic leadership is preferred as in return for

obedience, subordinates can expect and receive protection. Wealth, power and status belong to a group who automatically prevents social mobility to a huge extent. Although the feudal system was abolished by Chulalongkorn, in today's Thailand, a patron-client system defines relationships. Corruption is covered up by elites who are always right as power prevails law (Taylor, 1997). This system can be upholding as Thai culture teaches children in their early years that individuals shall always be happy with who they are.

In contrast to Thailand, which is a society coined by collectivism (20), Germany scores high on the individualism dimensions (67). The percentage of single-person households was 39,2% in 2007, a proof for high individualism in Germany ("Germany: Reaching the consumer", 2016). Relationships between individuals are lax with individuals looking after themselves and their close family only (Hofstede & Hofstede, 2005). The high individualism also leads to see yourself as "I" – au contraire to Thailand, where people get taught to see themselves as "We". As independent selves, Germans pursue their own interests which is reflected by their consumption patterns. Germans live a self-supporting lifestyle leading to individual ownership of goods (Hofstede & Hofstede, 2005). Thailand is a collective culture, in which social groupings have a strong sense for loyalty which often can overwrite rules or regulations (Buriyameathagul, 2013). Collective interests are considered more important than individual ones. If an individual contravenes the rules not only the individual but rather the whole groups is losing its face which is putting an even higher pressure on Thais to maintain social structures and behave accordingly. The interdependence of individuals in Thailand leads to predetermined opinions. Individual decision-making is determined by the consultation of the other in-groups as Thais struggle to decide on their own (Hofstede & Hofstede, 2005).

Furthermore, Germany is a very masculine society (66), while Thailand scores low on the Masculinity dimension (34), which makes it a more feminine society. As a conclusion, Germany is a country dominated by traditionally-seen masculine values and is therefore ultimately performance-driven. This competitive environment is deeply embedded in German culture with children already experiencing it at school. Representative of this fact is the proverb "Life is what you make it" as in German culture, performers can climb the social ladder. Also, individuals appreciate challenges and then strive for recognition, what leads to more status products sold. Thailand's low score makes it a feminine country in which traditional roles of male and female overlap and are shared. There is a smaller difference between males and females which can be observed in the comparable high percentage of female leaders in the country. Buddhism – with rebirth – is a tender religion, which is predominately found in less competitive feminine cultures, also explaining the high generosity in Thailand. However, as already mentioned, the gender equal Thailand society still expects men to lead as they may otherwise be perceived as unmanly

Both, Germany (65) and Thailand (64) score equally high on the Uncertainty Avoidance dimension.

The fourth difference between German and Thai culture is found in Long Term Orientation on which Germany scores 31 and Thailand 56. As Germany scores low, Germany is considered a short-term orientated country with respect for traditions. Germans tend to have a high consumption rate that leads to high

spending and only small savings or investments (Hofstede & Hofstede, 2005). In a social sense, Germans prefer personal stability to relationships based on status. The high score Thailand attains, makes it somehow a long-term orientated country with respect for personal circumstances.

What is good or bad depends on the situation and is therefore not strictly predetermined compared to Germany. In contrast to personal stability, children are taught adaptiveness. (Hofstede & Hofstede, 2005). In addition, Thais are supposed to have a high saving quote, but personal experiences cannot support this characteristic with huge nights out at pay-days. This might be a difference between Thailand A (urban Thailand) and Thailand B (rural Thailand), when thinking of 'Long kak kiew kao' 8 With agriculture as a main industry in rural Thailand and the missing capital and machinery to harvest, families count on the help of neighbours with whom they made good relationships throughout the year. To summarize: Thais plan ahead). Ultimately, Thailand additionally shows short-term orientated values, which justifies the description 'somehow long-term orientated', as Thailand strongly cherishes its traditions and customs while searching for economic, political but also social stability (Buriyameathagul, 2013).

Eventually, in collaboration with Minkov, Hofstede added the Indulgence dimension, in which Germany (40) and Thailand (45) score equally high again. Both Thailand and Germany harbour a restrained culture. The dimension deals with the socialization and explains in how far individuals express their feelings. In a restrained culture like Germany, individuals tend to be pessimistic and score lower on their subjective evaluation of happiness. The strict social norms lead to individuals who subdue their needs and desires, which sums up to a culture with stricter moral discipline (Hofstede & Hofstede, 2005). In Thailand, the ability to interact socially is dependent on how well you can perform 'krengchai' (A way to keep harmony established by securing that no one loses his face by showing respect and being polite towards others). A principle is closely connected to 'jay yen' and 'mai pen rai' (translates to 'do not worry') (Cavanagh, 2008), which lead to high self-restraint with a tolerance to minimize confrontations to prevent a 'loss of face' (Barnes, 2007).

As set out above, Hofstede's model depicts that Germans and Thai do not share a common mental programming.

Culture is an influencing factor besides social, personal and psychological factors in Kotler's & Armstrong's buyer's black box. Within their model of buyer behaviour, a marketing stimuli might affect buyer responses such as the buying attitudes and preferences, purchasing behaviour (what, when, where and how much) and the brand and company relationship behaviour differently depending on the cultural surrounding it is placed in (Kotler & Armstrong, 2012).

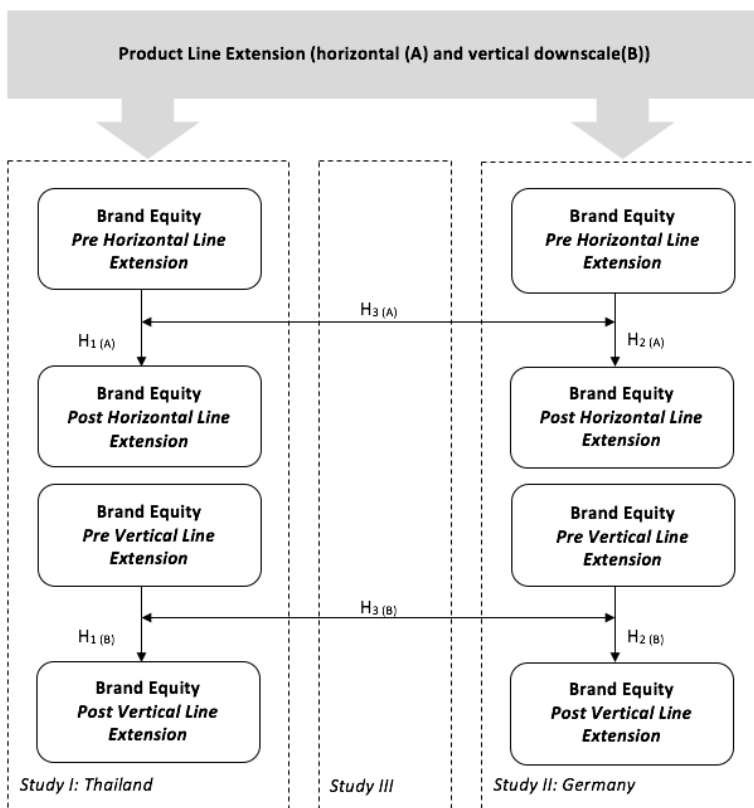
Germans embody a low power distance culture in which it is even proscribed to show status. Thus, Germans respect modesty in the public sphere and status does not need to be expressed heavily. Therefore, line extensions which might change the brand positioning are not expected to change brand equity.

Thais embody a high power distance culture, in which status needs to be expressed. Global premium brands best enable one to demonstrate status (De Mooji & Hofstede, 2011). Thais feel the pressure to conform to their in-groups, which also includes purchases of corresponding products and services to prevent a loss of face. Accordingly, horizontal line extensions are expected to increase



brand equity as Thailand bears huge potential premium markets, while vertical downscale line extensions decrease brand equity due to the loss of face caused by the dilution of user's sense of exclusivity and pride.

In conclusion, it is believed that line extension strategies thought on a global scale change brand equity differently among different cultures. Study III therefore tests if product policies should be rather thought regionally.



**Figure 1. Research overview**

**Study I: Thailand**

H<sub>1(A)</sub>: In Thailand, horizontal line extensions by an automotive premium brand have a positive effect on brand equity

H<sub>1(B)</sub>: In Thailand, vertical downscale line extensions by an automotive premium brand have a negative effect on brand equity.

**Study II: Germany**

H<sub>2(A)</sub>: In Germany, horizontal line extensions by an automotive premium brand have no effect on brand equity.

H<sub>2(B)</sub>: In Germany, vertical downscale line extensions by an automotive premium brand have no effect on brand equity.

**Study III: Thailand vs. Germany**

H<sub>3(A)</sub>: Horizontal line extensions by an automotive premium brand have a different effect on brand equity in Germany and Thailand.

H<sub>3(B)</sub>: Vertical downscale line extensions by an automotive premium brand have a different effect on brand equity in Germany and Thailand.

### 3. Methodology

The two national studies in Germany and Thailand use the same research design. Together with an appropriate sampling technique, the research structure enables to compare the changes in brand equity and to test the two hypotheses in Study III with a data-suited analysis.

#### 3.1. Research design and sampling

A one-group pre-test post-test group design has been chosen as it measures dependent variables before a 'treatment', which makes a comparison between a dependent variable before and after treatment subject to the influence of independent variables possible. However, due to potential confounding variables, a cause-effect relationship is not necessarily given. After evaluating the research, these confounding variables such as history effects, maturation, testing effects, instrumentation, statistical regression and others – possibly reducing the construct validity – could be logically excluded, except subject effects, connoting individuals' change in behaviour as they know they take part in a research study. This high internal validity results in a systematic error close to zero. Besides internal validity, the research is built on reliability and objectivity. First, the three forms of reliability, internal consistency, test-retest reliability and reliability inter-rater reliability – measured by Cronbach's  $\alpha$ , Spearman's  $\rho$  and Intraclass Correlation Coefficient (ICC) – secure the minimization of a random error. Second, the research has been conducted objectively during all steps from data collection, with questions asking objectively without leading respondents towards desired answers, to data analysis, which dissociates itself from data snooping methods to achieve significant results. As a conclusion, the research results lead to individual measurements ( $x_{\text{observed}}$ ) close to the true values ( $x_{\text{true}}$ ) by reason of minimized bias ( $x_{\text{error}}$ ) and chance error ( $x_{\text{error}}$ ).

$$(1) x_{\text{observed}} = x_{\text{true}} + x_{\text{error}} + x_{\text{error}}$$

In addition to internal validity which is secured by the research design and its minimization of confounding variables, the use of external validity will enable to secure the ability to generalize results with an appropriate sample drawn from the population. The population are consumers from Germany and Thailand. Germany has approximately 81 million citizens, Thailand has 67 million. Both populations are adjusted by the age group 'under 15' which accounts for 18% in Thailand and 13% in Germany (International Monetary Fund, 2014; WKO, 2015a, 2015b; World Bank, 2014). The correction results in population estimates of 70.6 million in Germany and 65.3 million in Thailand. The sample size was calculated with the formula for a representative sample in large populations by Cochran (1963). The formulas consist of  $n_0$  for sample size,  $Z^2$  for abscissa of normal curve cut off,  $e$  for margin of error,  $p$  for estimated proportion of an attribute in population and  $n$  for adjusted sample size.

$$(2) n_0 = \frac{Z^2 p(1-p)}{e^2}$$

$$(3) n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

A representative sample (with  $Z^2=1.96$ ,  $p=0.5$ ) for Thailand and Germany – securing external validity – would have been a sample of 385 accrued respondents each. Though, the focus lays on Study III and due to limitations of time and funds, the sample size was reduced to 200 each in Thailand and Germany.

The time and fund constraints, the decrease in sample sizes and the socio-cultural student bias caused by the matched sampling technique prevent a generalization of results for the overall populations.

The research used a matched-samples approach (Rubin, 1973; Stuart, 2010). This is a non-probability approach, which reduces the validity of Study I and II, but simultaneously guarantees the validity of Study III per two homogeneous groups which do not differ except for the independent variable culture. The easiest accessible homogenous group are students. Each individual  $i$  from Germany and  $j$  from Thailand is currently enrolled in a university business program and is aged between 18 and 28. This results in a sample of students which are part of the middle to upper class, are in the upper intellectual echelon of their societies and share, explained by their choice of studies, common interests (First, 2009). Additionally, the respondents had to live in their home country for at least six months in the last year and at least four years within the last five years to forestall the possible dilution of cosmopolitans' national culture. The similarity  $S$  of both samples who received the treatment  $T$  (introduction of line extension) is infinite due to the data collection which controls respondents for the covariates  $X$ .

$$(4) S_{ij}^T = \begin{cases} \infty & \text{if } \sum_{z=1}^{200} X_i^T = \sum_{z=1}^{200} X_j^T \\ 0 & \text{if } \sum_{z=1}^{200} X_i^T \neq \sum_{x=1}^{200} X_j^T \end{cases}$$

Convenience and snowball sampling were used to collect data. The convenience sampling started with an e-mail list of Thai and German students who fulfil the criteria mentioned above. These students were then kindly asked to share the hyperlink to fellow students. The snowball sampling guaranteed fast access to respondents with the required criteria. As the focus of the research lies in the influence of culture on line extension evaluations, the loss of validity in Study I and II is accepted for a guarantee of high validity in Study III.

Lastly, we can assume that business students are high potential future consumers of premium-branded cars which strengthens the choice for a student sample.

### **3.2. Data collection**

The study collects primary data from Thailand and Germany. The quasi-experiment collects data using an online survey with page logic. An online survey has relatively low costs, easy access to and high coverage of respondents and the possibility to visualize the treatment properly. It is in addition used for randomization purposes and page logic. Depending on earlier answers given, the respondent walks through a distinctive personalized questionnaire. This personalization is essential for the research as the earlier given answers determine the line extension. If respondents chose brand z in the pre-test, they received a line extension from brand z.

The questionnaire measures the variables on nominal, ordinal, and metric scales. Most of the scales are "metric" seven-point Likert scales, having a midpoint which is four (pre-test) or zero (post-test), which enables the respondents also to answer "neither..., nor...". The regression towards the mean (a problem observed: differences tend to be smaller between pre-test and post-test if the pre-test value had been large and if the pre-test value has been very small), due to extreme scores by respondents in the pre-test, caused a scale change in the post-test.

Among researchers it is heavily discussed if Likert scales can be considered metric scales. Likert scales without a midpoint as well as uneven Likert scales with five or less items per scale cannot be considered continuous. The research treats the used seven-point Likert scales as quasi-continuous scales.

The midpoint of the seven-point Likert scale has been discussed with researchers in Asia, who experienced that the cultural bias 'hides in the middle'. A phenomenon explained respondents from Asia who frequently choose the midpoint of scales. However, as the questionnaire conducted anonymously online, the phenomenon could not be observed. Prior to the full-scale questionnaire, the portfolio questionnaire also collected data to create the brand basket in the full-scale questionnaire. Besides the portfolio questionnaire, the research distributed a pilot questionnaire to firstly improve the questionnaire design and secondly measure test-retest reliability as mentioned above. The portfolio questionnaire collected data during one day in the beginning of June 2016 in Germany and Thailand, the pilot questionnaire collected data within two days in mid-June in Thailand only, the full-scale questionnaire collected data during 21 days, starting end of June.

### **3.3. Data analysis**

Explorative data analysis revealed, with the help of Kolmogorov-Smirnov and Shapiro-Wilk tests (Appendix 1), that data all variables besides overall pre-associations and overall post-associations are not distributed normally – an assumption for parametric tests. In addition to the numerical method, also Q-Q plots are analysed to confirm graphically the divergence from normality of data.

The data analysis uses univariate and bivariate tools. Descriptive statistics first describes the data and inferential statistics then tests the hypotheses. Absolute frequency, relative frequency, cumulative frequency(ies), arithmetic mean, median, quantiles (location parameters), variance and standard deviation range (distribution parameters) all describe the gathered data and are partially visualized with the help of boxplots.

The accumulation of facts from only quasi-continuous Likert scales to a divergence from normality of data explain the application of non-parametric

statistics. The advantage of non-parametric tests is the validity also present for data measured on ordinal scales without being based on certain probability distributions. Instead of using the one-sample t-test, the t-test for independent samples and the t-test for dependent samples, the research uses the Mann-Whitney-U test and the Wilcoxon signed-rank test. The non-parametric sign-test is not examined because it does not address skewness for it assumes a symmetric distribution. Furthermore, instead of using the Pearson correlation, the research examines relationships with Spearman's  $\rho$ . The Wilcoxon signed-rank test was used to analyse the difference between pre-test and post-test and as the post evaluation depends on the pre evaluation, the Mann-Whitney-U test was used to compare results with the culture control variable (nationality). To analyse the relationships between two nominal scales, the research used Cramer-V. The correlation between pre-purchased brand and car ownership and the correlation between pre-purchased brand and brand recall were analysed.

The  $\chi^2$ -test was used for market share -the fifth dimension of brand equity- to analyse the difference in market share after horizontal and vertical line extensions. The  $\chi^2$ -test uses the chosen market share from the pre-test to construct an estimated distribution for the ten categories (Audi, Mercedes, BMW, Volvo, Lexus, Toyota, Honda, Mitsubishi, Isuzu and Nissan). The post-extension market-share is then tested on the pre-test market share. Analysis of market share change is multi-layered, also studying the fluctuation in model change to identify possible substitution effects.

## **4. Results**

The questionnaires collected 278 responses from Thailand and 267 responses from Germany. 78 responses from Thailand and 67 responses had to be foreclosed as the respondents were either not enrolled in a university program or pose a risk due to cultural dilution. The high exclusion rate was not surprising, if one bears in mind the nowadays more and more common semester abroad (i.e. Erasmus program).

### **4.1. Reliability**

The reliability tests for Study I and II are acceptable to excellent. All four Cronbach's  $\alpha$ 's are 0.7 or above (See Table 2A in Appendix A2). Besides a high level of internal consistency for our scales, an excellent test-retest reliability is given with significant correlations of all variables greater than 0.7 in Study I (See Table 2B in Appendix A2). Except the recommendation scale, test-retest reliability is also excellent in Thailand with significant Spearman's  $\rho$ 's higher than 0.7 (See Table 2C in Appendix A2). Lastly, also inter-rate reliability is excellent with highly significant correlations greater than 0.9 (See Table 2D in Appendix A2).

### **4.2. Germany**

From the 100 % German respondents – 63.5 % male and 36.5 % female – 60.5 % are enrolled in an undergraduate business program. Undergraduate and postgraduate business students together account for 96 % of respondents, which results in 4 % Ph.D. students. 54.5 % of respondents stayed abroad for six months or less (45.5 % six months to a year) during the last five years. Cultural dilution in the short term draws a similar picture with 49 % of respondents who stayed abroad three months or less (51 % three to six months) during the last year. The high car

ownership (respondents themselves or their households own a car) of 86% underpins the meaningfulness of the study's following results.

**Table 1**

	Brand market share in Germany			
	Pre-test		Post-test	
	Hor.	Ver.	Hor.	Ver.
Audi	13.8%	25.0%	15,5%	17,9%
Mercedes	30.2%	27.4%	33,6%	36,9%
BMW	16.4%	11.9%	12,9%	13,1%
Volvo	10.3%	8.3%	10,3%	8,3%
Lexus	2.6%	2.4%	3,4%	2,4%
Toyota	1.3%	8.3%	7,8%	6,0%
Honda	9.5%	4.8%	8,6%	4,8%
Mitsubishi	3.4%	7.1%	4,3%	7,1%
Nissan	3.4%	4.8%	3,4%	3,6%
Total	100.0%	100,0%	100,0%	100,0%

The most purchased brand of the brand basket (Audi (P for premium), Mercedes (P), BMW (P), Volvo (P), Lexus (P), Toyota (V for value), Honda (V), Mitsubishi (V), Isuzu (V) and Nissan (V)) in the pre-test, with a market share of 29 % (39.2 % among premium brands) is Mercedes-Benz, followed by Audi 18.5 % (25.0 %), BMW 14.5 % (19.6 %), Volvo 9.5 % (12.8 %), Lexus 2.5 % (3.4 %), Toyota 9.5 %, Honda 7.5 %, Mitsubishi 5.0 %, Nissan 4.0 % and Isuzu 0.0 %.

Germans prefer and therefore most frequently purchased (66.5 % of respondents specified) SUVs 24.8 % (25.5), hatchbacks 23.6 % (20.6 %), sedans 17.3 % (18.6 %) and estates 14.3% (13.7 %). Less purchased models were vans 7.5 % (7.8 %), convertibles 6.0% (6.9%), coupés 4.5 % (3.9 %), while pick-ups have not been purchased once in Germany. Line extensions, depending on the chosen brand in the pre-test, were introduced randomized, either vertically or horizontally. Therefore, to compare the pre-test and post-test, distributions in brand and model market share were displayed separately. As >20 % of cell frequencies have a value below five, one assumption of the  $\chi^2$ -test is not met. Instead of using a Yates correction for continuity which tends to produce insignificant results and the Fisher's exact test which might need a few hours to a few days with tables larger than 2x2, cells are merged to avoid numerical counts below five.

If all five premium brands and all five value brands are joined in two categories, for horizontal ( $\chi^2 = 0.396$ ,  $p > .05$ ) and vertical ( $\chi^2 = 0.571$ ,  $p > .05$ ) or all five value brands and the two premium brands Lexus and Volvo are joined together, for horizontal ( $\chi^2 = 1.678$ ,  $p > .05$ ), vertical ( $\chi^2 = 5.025$ ,  $p > .05$ ) the non-parametric  $\chi^2$ -goodness-of-fit test concludes that there are no statistically significant differences in pre-extension and post-extension market share for neither horizontal or vertical line extensions. For the chosen models the  $\chi^2$ -goodness-of-fit gives the same picture for horizontal ( $\chi^2 = 1.438$ ,  $p > .05$ ) and vertical ( $\chi^2 = .162$ ,  $p > .05$ ) line extensions (with joined cells: SUVs, sedans, hatchbacks, estates and others).

Car ownership and pre-test purchases (Cramer-V=0.360,  $p < 0.0005$ ) are correlated statistically significant as well as pre-test purchases and brand awareness (Cramer-V=0.775,  $p < 0.0005$ ), the second dimension after market

share. Associations increased overall statistically significant after the line was extended vertically and horizontally. The fourth and fifth dimension brand equity, leadership and loyalty, also increased in a statistically significant way. Also price premium, which was tested with the Two-dependent-sample Wilcoxon signed-rank test for both horizontal ( $Z=-1.106$ ,  $p=0.269$ ) and vertical ( $Z=-1.026$ ,  $p=0.305$ ) line extensions is insignificant. This results in an increased likelihood to purchase the chosen brand after vertical and horizontal line extensions Except the difference in change of 'value for money' ( $Z=-3.353$ ,  $p<0.01$ ) in the post-test, differences between horizontal and vertical line extensions are not statistically significant (Overall associations:  $Z=-1.634$ ,  $p=0.102$ , Leadership:  $Z=-.452$ ,  $p=0.651$ , Recommendation:  $Z=-.499$ ,  $p=0.618$ , Satisfaction  $Z=-.506$ ,  $p=0.613$ , Likelihood  $Z=-.035$ ,  $p=0.972$ ).

Despite the similarity in the post-test between horizontal and vertical line extensions, the difference in evaluations of premium and value brands in the pre-test is statistically highly significant (Overall associations:  $Z=-10.258$ ,  $p<0.0005$ , Leadership:  $Z=-9.709$ ,  $p<0.0005$ , Recommendation:  $Z=-10.147$ ,  $p<0.0005$ , Satisfaction  $Z=-10.461$ ,  $p<0.0005$ , Likelihood  $Z=-8.527$ ,  $p<0.0005$ )

Table 2

Post Extension Germany						
	N	Horizontal Mean	Std. Deviation		Vertical Mean	Std. Deviation
Post associations	85	.2462**	.34123	63	.2676**	.45047
Aesthetics change	85	-.2118	1.22566	63	-.1111	1.01776
Comfort change	85	.4000**	.60159	63	.3968*	.58309
Equipment change	85	-.0706	1.02107	63	-.3175**	1.10461
Innovation change	85	.7765**	.49705	63	.9206**	.48532
Originality change	85	.5176**	.86756	63	.5397**	.79971
Reliability change	85	.5529**	1.10740	63	.4762**	1.21625
Horsepower change	85	.2588**	.44059	63	.2698**	.48214
Solidity change	85	.6706**	1.02804	63	.4286*	1.35259
Status change	85	.0941	1.03076	63	-.0317	1.16354
Value for money change	85	.3294*	1.09532	63	1.0159*	1.36183
Safety change	85	.1176	.90517	63	.2540**	.76133
Environmentally friendly change	85	-.2706*	.99269	63	-.0635	.99795
Affordability change	85	.8941*	.88672	63	.8254**	1.05555
Elegance change	85	-.7059**	1.00976	63	-.8571**	1.04507
Likelihood change	85	1.0824**	.99057	63	1.0635**	1.14825
Satisfaction change	85	1.0000**	1.05785	63	1.0952**	1.01146
Recommendation change	85	.9059**	1.03076	63	.9524**	1.15603
Leadership change	85	.8471**	1.05228	63	.9365**	1.04531
Valid N (listwise)	85			63		

\*\* . Significance at the 0.01 level (2-tailed). \* . Significance at the 0.05 level (2-tailed).

The analysis concludes that hypotheses  $H_{2(A)}$  and  $H_{2(B)}$  are rejected but exposes two alternative hypotheses:

- $H_{2(A)}$  alternative: In Germany, horizontal line extensions by an automotive premium brand have a positive impact on brand equity.

- $H_{2(B)alternative}$ : In Germany, vertical downscale line extensions by an automotive premium brand have a positive impact on brand equity.

#### 4.3. Thailand

From the 100% Thai respondents – 54.0 % male and 46.0 % female –, 55.5 % were enrolled in a postgraduate business program. Undergraduate and postgraduate business students together account for 99 % of respondents, in which leaves 1 % Ph.D. students. 87.5 % of respondents stayed abroad six months or less (12.5 % six months to a year) during the last five years. Cultural dilution in the short term draws a similar picture with 78.0 % of respondents who stayed abroad three months or less (22.0 % three to six months) during the last year. The high car ownership (respondents themselves or their households own a car) of 98 % underpins the meaningfulness of the study's following results. The most purchased brand of the brand basket (same brand basket as in Germany) in the pre-test, with a market share of 28 % (44.8 % among premium brands) is Mercedes-Benz, followed by BMW 19.0 % (30.4 %), Volvo 6.5 % (10.4 %), Audi 5.5 % (8.8 %) and Lexus 3.5 % (5.6 %), Toyota 10.5 %, Nissan 7.5 %, Isuzu 7.0 %, Honda 7.0 % and Mitsubishi 5.5 %. Thais prefer and therefore most frequently purchased (75.0 % of respondents specified) SUVs 30.0 % (29.0), sedans 30.0 % (36.0 %), hatchbacks 13.3 % (9.0 %) and pick-ups 9.3 % (0.0 %). Less purchased models were convertibles 4.7 % (7.0 %), coupés 4.7 % (7.0 %), and estates 2.7 % (4.0) while vans were not purchased in Thailand. Line extensions, depending on the chosen brand in the pre-test, are introduced randomized, either vertically or horizontally. Therefore, to compare the pre-test and post-test, distributions in brand and model market share are displayed separately.

As <20 % of cell frequencies have a value below five, the  $\chi^2$ -test is considered appropriate.

Table 3

	Brand market share in Thailand			
	Pre-test		Post-test	
	Hor.	Ver.	Hor.	Ver.
Audi	5.9%	25.0%	15,5%	17,9%
Mercedes	30.2%	27.4%	33,6%	36,9%
BMW	16.4%	11.9%	12,9%	13,1%
Volvo	10.3%	8.3%	10,3%	8,3%
Lexus	2.6%	2.4%	3,4%	2,4%
Toyota	1.3%	8.3%	7,8%	6,0%
Honda	9.5%	4.8%	8,6%	4,8%
Mitsubishi	3.4%	7.1%	4,3%	7,1%
Nissan	3.4%	4.8%	3,4%	3,6%
Total	100.0%	100,0%	100,0%	100,0%

While for horizontal line extensions market share is not significantly different ( $\chi^2 = 1.034$ ,  $p > 0.05$ ), for vertical line extensions ( $\chi^2 = 44,122$ ,  $p < 0.0005$ ) the difference between pre-test and post-test market share is statistically highly significant. More 20 % of cells have frequencies counts below five for 'pre-test model' and 'post-test model', therefore convertibles, roadsters and coupés as well as estates and hatchbacks are joined together. The  $\chi^2$ -goodness-of-fit gives a



different picture for horizontal ( $\chi^2 = 126.164, p < 0.0005$ ) and vertical ( $\chi^2 = 26.355, p < 0.0005$ ) line extensions. Car ownership and pre-test purchases (Cramer-V = 0.632,  $p < 0.0005$ ) are correlated statistically significant as well as pre-test purchases and brand awareness (Cramer-V = 0.710,  $p < 0.0005$ ), the second dimension after market share. De facto, there is a strong correlation between brand awareness and brand pre-test purchases (Cramer-V > 0.5) and between ownership and pre-test purchases (Cramer-V > 0.5). Associations increased overall statistically significant after horizontal line extensions, while association decreased overall after vertical downscale extensions (See Table 2 below). The fourth and fifth dimension brand equity, namely leadership and loyalty also increased statistically significant after horizontal line extensions. Again, results give a different picture after vertical line extensions: Both leadership and loyalty decreased statistically significant. The difference in price premium, which was tested with the Two-dependent-sample Wilcoxon signed-rank test for both horizontal ( $Z = -2.718, p < 0.01$ ) and vertical ( $Z = -5.369, p < 0.0005$ ) line extensions is statistically significant. The price premium increased after horizontal line extensions and decreased after vertical line extensions. This results in an increased likelihood to purchase the chosen brand after horizontal but not vertical line extensions. This results in an increased likelihood to purchase the chosen brand after horizontal but not vertical line extensions. For 'overall associations' ( $Z = -6.074, p < 0.0005$ ), 'aesthetics' ( $Z = -7.102, p < 0.0005$ ), 'solidity' ( $Z = -2.475, p < 0.05$ ), 'status' ( $Z = -6.039, p < 0.0005$ ), 'value for money' ( $Z = -5.346, p < 0.0005$ ), 'environmentally friendly' ( $Z = 1.973, p < 0.05$ ), 'affordability' ( $Z = -3.867, p < 0.0005$ ), 'elegance' ( $Z = -5.107, p < 0.0005$ ), 'satisfaction' ( $Z = -7.706, p < 0.0005$ ), 'recommendation' ( $Z = -8.479, p < 0.0005$ ), 'leadership' ( $Z = -6.292, p < 0.0005$ ), there is a statistically significant difference between horizontal and vertical line extensions while the difference in is not statistically significant ('comfort'  $Z = -1.759, p = 0.079$ ; 'equipment'  $Z = -.876, p = 0.381$ ; 'innovation'  $Z = -.879, p = 0.380$ ; 'originality'  $Z = -1.379, p = 0.168$ ; 'reliability' ( $Z = -.568, p = 0.570$ ), 'horsepower' ( $Z = -1.280, p = 0.200$ ), 'safety' ( $Z = -1.863, p = 0.062$ ).

Table 4

Post Extension Thailand					
		Horizontal	Std.	Vertical	Std.
		Mean	Deviation	Mean	Deviation
Post associations		69 .2464**	.41279	56 -.1416**	.24574
Aesthetics change		69 .3913**	.89471	56 -1.0714**	1.00647
Comfort change		69 -.0290	.29561	56 -.1607*	.49642
Equipment change		69 .0000	.34300	56 -.0714	.42027
Innovation change		69 1.0145**	1.11794	56 .7143**	.65267
Originality change		69 .3333**	.70014	56 .0893	.72052
Reliability change		69 .5072**	.83355	56 .3929**	.52841
Horsepower change		69 .1594**	.47351	56 0.0536	.29663
Solidity change		69 .6377**	.95442	56 .2321**	.46675
Status change		69 .0290	.85700	56 -1.4107**	1.56991
Value for money change		69 .5362**	.75886	56 -.4821**	1.09530
Safety change		69 .4058**	.97496	56 .1964**	.44393
Environmentally friendly change	friendly	69 -.1594**	.44136	56 .1786	1.11367

Affordability change	69	.1014*	.34916	56	.6071**	.88787
Elegance change	69	-.4783**	.53161	56	-1.2500**	.87905
Likelihood change	69	.6087**	1.10103	56	-1.2143**	1.20173
Satisfaction change	69	.7536**	1.14283	56	-1.3214**	.17716
Recommendation change	69	1.4348**	1.20633	56	-1.3214**	1.19251
Leadership change	69	.3333**	.77964	56	.3214**	.76532
Valid N (listwise)	69			56		

\*\* . Significance at the 0.01 level (2-tailed). \* . Significance at the 0.05 level (2-tailed).

Despite the differences in the post-test between horizontal and vertical line extensions, the difference in evaluations of premium and value brands in the pre-test is statistically highly significant (Overall associations:  $Z=-11.522$ ,  $p<0.0005$ , Leadership:  $Z=-9.977$ ,  $p<0.0005$ , Recommendation:  $Z=-6.325$ ,  $p<0.0005$ , Satisfaction  $Z=-8.297$ ,  $p<0.0005$ , Price premium:  $Z=-8.527$ ,  $p<0.0005$ , Likelihood:  $Z=-6.892$ ,  $p<0.0005$ ).

The analysis concludes in the acceptance of hypotheses  $H_{1(A)}$  and  $H_{1(B)}$ .

#### **4.4. Germany and Thailand**

Culture determines brand equity change in regards to the direction of line extensions (cet. par. brand awareness). Brand awareness is believed to remain at least the same after line extension but rather even increased, due the launch with all its corresponding marketing activities. While in Germany, the car ownership is weakly correlated to pre-test purchases (Cramer-V=0.360,  $p<0.0005$ ), it is strongly correlated in Thailand (Cramer-V=0.632,  $p<0.0005$ ). That implies predetermined purchasing decision from in-groups. Study III mainly uses the grouping variable 'nationality' to compare the results controlled for Thai and German culture. The pre-test exposes a statistical significant difference in evaluations of value and premium brands between Thai and German respondents. Premium brands are evaluated significantly higher in 'overall associations' ( $Z=-3.726$ ,  $p<0.0005$ ), 'comfort' ( $Z=-4.068$ ,  $p<0.0005$ ), 'innovation' ( $Z=-7.856$ ,  $p<0.0005$ ), 'originality' ( $Z=-6.284$ ,  $p<0.0005$ ), 'status' ( $Z=-7.010$ ,  $p<0.0005$ ), 'value for money' ( $Z=-4.077$ ,  $p<0.0005$ ), 'safety' ( $Z=-3.970$ ,  $p<0.0005$ ), 'environmentally friendly' ( $Z=-7.091$ ,  $p<0.0005$ ), 'likelihood' ( $Z=-6.528$ ,  $p<0.0005$ ), 'satisfaction' ( $Z=-7.595$ ,  $p<0.0005$ ), 'recommendation' ( $Z=-7.665$ ,  $p<0.0005$ ), 'price premium' ( $Z=-3.959$ ,  $p<0.0005$ ) and 'leadership' ( $Z=-2.573$ ,  $p<0.05$ ).

Aside from the difference in pre-test evaluations of premium brands, Germans and Thais also evaluate the line extensions differently. While there is no statistical significant difference in perceived fit for horizontal line extensions ( $Z=-1.619$ ,  $p=0.105$ ), there is a significant difference ( $Z=-8.762$ ,  $p<0.0005$ ) after vertical line extensions. Respondents perceive a lower fit after vertical line extensions in Thailand. On the one hand, after horizontal line extensions Thais perceive the extension product as substitute ( $Z=-6.057$ ,  $p<0.0005$  to the product line while Germans perceive it as complement ( $Z=-7.354$ ,  $p<0.0005$ ). On the other hand, after vertical line extensions, both Thais and Germans perceive the product as complement, with Germans who are having a higher agreement compared to Thais ( $Z=-2.069$ ,  $p<0.05$ ). The market shares, representing brand preferences are significantly different in Germany and Thailand (without Isuzu as zero in Germany  $\chi^2=64.694$ ,  $p<0.0005$ ). Audi is not as popular in Thailand compared to Germany; less BMW are chosen in Germany compared to Thailand. In addition to the brand

market share, also the model market share is significantly different in Thailand and Germany. While in Germany, there is not a single pick-up chosen in the pre-test, in Thailand 14 respondents decided for a pick-up. Vice versa for vans, which were chosen ten times in Germany, as against in Thailand zero respondents have chosen a van. The post-test showed for vertical and horizontal line extensions differences in Germany and Thailand. After horizontal line extensions in Thailand respondents do not switch brand but do switch models, especially from SUVs to newly introduced pick-ups. After horizontal line extensions in Germany, model market share remains rather stable with little cannibalization, which is in line with perception of the pick-up as complement to the product line. While in Germany 78% of the pick-ups are picked after horizontal line extensions, in Thailand, 64% of increase in pick-up market share occurred after horizontal line extensions. If line extensions are introduced vertically in Thailand, there is an increase in premium brand market share due to the move from value brand pick-up or SUV purchases, however a detailed analysis reveals that value to premium brand switches overcompensate the lost pre-test purchases, especially in sedans, coupés, convertibles and roadsters. The difference in post-test evaluations explain the change in brand and model market share.

Overall associations did not change statistically different after horizontal line extensions but did after vertical line extensions. In Thailand overall associations increased while they decreased in Germany (see Table 5). Single associations which change differently after horizontal line extensions are aesthetics, comfort, safety, affordability, likelihood, recommendation and leadership. This results in a different change of brand equity after horizontal extensions on two dimensions, brand leadership and loyalty (with insignificant difference in market share between Thailand and Germany  $\chi^2=3.784$ ,  $p=0.052$ ).

As mentioned above, overall association changed statistically different in Germany and Thailand. Additionally, aesthetics, comfort, innovation, originality, horsepower, solidity, status, value for money, elegance, likelihood, satisfaction, recommendation and leadership and price premium did change differently with statistical significance (see Table 5). Market share changes differently in Germany and Thailand with 51% of respondents in Thailand and 11.9% of respondents in Germany who switch their purchase choice in the post-test ( $\chi^2=150.530$ ,  $p<0.0005$ ). This results in a different change on four dimensions, namely brand loyalty, brand associations, brand leadership and brand market characteristics after vertical line extensions. The following equations display the coherences gathered from Study III:

$$\text{BRANDEQUITYCHANGE}_{\text{HORIZONTAL.GERMAN}} \cong \text{BRANDEQUITYCHANGE}_{\text{VERTICAL.GERMAN}}$$

$$\text{BRANDEQUITYCHANGE}_{\text{HORIZONTAL.THAI}} \gg \text{BRANDEQUITYCHANGE}_{\text{VERTICAL.THAI}}$$

$$\text{BRANDEQUITYCHANGE}_{\text{HORIZONTAL.GERMAN}} < \text{BRANDEQUITYCHANGE}_{\text{HORIZONTAL.THAI}}$$

$$\text{BRANDEQUITYCHANGE}_{\text{VERTICAL.GERMAN}} \gg \text{BRANDEQUITYCHANGE}_{\text{VERTICAL.THAI}}$$

**Table 5**

**Differences between Germany and Thailand**

	<b>N</b>	<b>Horizontal Z</b>	<b>Asymp. Sig. (2- tailed)</b>	<b>N</b>	<b>Vertical Z</b>	<b>Asymp. Sig. (2- tailed)</b>
Post associations	218	-.159	.874	182	-6.563 **	.000
Aesthetics change	218	-3.095 **	.002	182	-4.630 **	.000
Comfort change	218	-5.205 **	.000	182	-5.093 *	.000
Equipment change	218	-.027	.978	182	-.686	.493
Innovation change	218	-.328	.743	182	-2.311 **	.021
Originality change	218	-1.891	.059	182	-3.316 **	.001
Reliability change	218	-.967	.333	182	-1.469	.142
Horsepower change	218	-1.752	.080	182	-2.863 **	.004
Solidity change	218	-1.127	.260	182	-1.998 *	.046
Status change	218	-.077	.938	182	-5.226 **	.000
Value for money change	218	-1.625	.104	182	-5.663 **	.000
Safety change	218	-2.078 *	.038	182	-.600	.548
Environmentally friendly change	218	-1.161	.246	182	-1.065	.287
Affordability change	218	-6.574 **	.000	182	-1.586	.113
Elegance change	218	-1.382	.167	182	-2.563 *	.010
Likelihood change	218	-3.485 **	.000	182	-7.832 **	.000
Satisfaction change	218	-1.879	.060	182	-8.257 **	.000
Recommendation change	218	-2.687 **	.007	182	-7.803 **	.000
Leadership change	218	2.971 **	.003	182	-3.376 **	.001
Valid N (listwise)	218			182		

\*\* . Significance at the 0.01 level (2-tailed). \* . Significance at the 0.05 level (2-tailed).

The analysis concludes in the acceptance of H<sub>3(A)</sub> and H<sub>3(B)</sub>, although after horizontal line extensions brand equity increased in both Thailand and Germany. However, it increased statistically different.

## 5. Discussion, Conclusion and Recommendation

The research teaches one several lessons in the theoretical and managerial fields. The studies revealed that there is a difference in brand equity change in terms of the direction of extension and culture it is placed upon. Horizontal line extensions of premium automotive brands increase brand equity in Germany and Thailand, while it increases stronger in Germany. In contrast, vertical line extensions increase brand equity in Germany while it decreases brand equity in Thailand.

Both Study I and Study II confirmed that brand equity of premium brands is higher than brand equity of value brands and therefore might have a higher ability to extend their product lines. As three out of the four researched dimensions (associations, satisfaction, recommendation, price premium and leadership at P-level 0.01) have received higher scores, premium brands can be said to have a higher brand equity than value brands.

The first differences between both cultural environments is the considerably higher correlation between pre-extension purchase and car ownership in Thailand

(Cramer-V 0,632\*\*) compared to Germany (Cramer-V 0,360\*\*). The higher correlation could explain less social mobility in the Thai society compared to the Germany society. However, what it means for sure is, that consumer decisions are predetermined by other in-groups as already discussed in the theoretical background.

Collectivism can cause a multiplication effect in Thai society. A collective society functions as a multiplier as opinions are made not individually but in a group which reduces the amount of individuals (group-leaders) who actually evaluate product line extensions. As Thailand is a collectivist society, the recommendation might be higher due to 'inner group multiplication'. This means, that a recommendation to single group member can influence the whole group after due to inner group dependencies. The recommendation might have also increased stronger in Thailand due to the bigger pick-up market in Thailand.

While in Thailand the price premium increases it remains on the same level in Germany. It is believed that the higher recommendation and estimated potential in Thailand causes a higher price premium. In contrast, society in Germany is believed to not see the line extension as prestigious. This is reflected by the market share of pick-ups in Thailand. While premium pick-up owners in Germany won't be admired if they own a premium pick-up, the opposite is the case in Thailand. In Thailand, there are many value branded pick-up owner who are believed to admire the owners of premium pick-ups. Resumed one can say that prestige motivated individuals need a low level counterpart to show off their status.

The leadership changes also significantly different in Germany in Thailand, although in both societies leadership increases after a horizontal line extension, the increase in leadership is higher in Thailand than in Germany. The higher increase in leadership might be caused by the culturally different understandings of the term of a two-pillar term. While in Thailand leadership probably rather means market leader in terms of sales, in Germany it might be more understood in terms of quality or technology leader. The pick-up would increase the market leadership in Thailand, but would it also increase market leadership and technology leadership in Germany? Although the increase in recommendation, price premium and leadership is higher in Thailand the purchasing likelihood does increase less than in Germany. The reason might be the individualistic culture in Germany which values the own satisfaction higher than recommendation of the brand to others and differently perceived leadership as mentioned above.

Although the research was planned in detail, due time and fund constraints limitations to the research emerged. The sample sizes were less than 385 (calculated by formula (2) and (3)). In addition, the comparison of only two countries (Germany and Thailand) might not allow to draw valid consequences. To overcome the limitation of research, further research should extend the research design to more than two countries resulting in the use of an analysis of variance (ANOVA) if data is distributed normally or the use of non-parametric statistics (Friedman or Kruskal-Wallis) if data is not distributed normally. Furthermore, discriminant and cluster analysis could deliver further and more practical results for single brands to achieve more specific results which can help the decision-making progress of managers. Moreover, the application and validation of results in other product categories are considered valuable, to allow for recommendations also to be valid to managers of other consumer goods.

As a conclusion, managers must be careful making use of line extension strategies without evaluating the market locally first. Especially a market in a collective surrounding often results in 'multiplier effects' as not individuals are not reached by new products but rather groups. Therefore, line extension strategies cannot be thought globally but rather regionally as different countries inhabit different cultures which lead to different consumer behaviour.

A rather regional decision-making of directions of line extensions is essential for premium brands to guarantee long-term survivability and profitability in a globally merging but culturally still separated markets.

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### REFERENCES

- Aaker, D., & Keller, K. (1990). Consumer Evaluations of Brand Extensions. *Journal of Marketing*, 54(1), 27–41. Retrieved from <http://www.jstor.org/stable/1252171>
- Aaker, D. (1990). Brand Extensions: The Good, the Bad, and the Ugly. *Sloan Management Review*, 31(4), 47–56.
- Aaker, D. (1991). *Managing Brand Equity*. New York.
- Aaker, D. (1996). *Measuring brand equity across products and markets*. *California Management Review*, 38(3), 102–120. doi: 10.2307/41165845
- Ahluwalia, R. (2008). How Far Can a Brand Stretch? Understanding the Role of Self-Construal. *Journal of Marketing Research*, 45(3), 337–350. doi:10.1509/jmkr.45.3.337
- Allman, H. F. (2013). *Vertical Versus Horizontal Line Extension Strategies: When Do Brands Prosper?*
- Balachander, S., & Ghose, S. (2003). Reciprocal Spillover Effects: A Strategic Benefit of Brand Extensions. *Journal of Marketing*, 67(1), 4–13. doi:10.1509/jmkg.67.1.4.18594
- Barnes, B. (2007). *Culture, Conflict, and Mediation in the Asian Pacific*. UPA. Retrieved from <https://books.google.co.th/books?id=1xxlH7GQVd4C>
- Basuroy, S., & Chatterjee, S. (2008). Fast and frequent: Investigating box office revenues of motion picture sequels. *Journal of Business Research*.
- Blom, H., & Meier, H. (2004). *Interkulturelles Management: interkulturelle Kommunikation, internationales Personalmanagement, Diversity-Ansätze im Unternehmen*. Verlag Neue Wirtschafts-Briefe. Retrieved from <https://books.google.co.th/books?id=U3vluAAACAAJ>
- Boush, D., & Loken, B. (1991). A Process-Tracing Study of Brand Extension Evaluation. *Journal of Marketing Research*, 28(1), 16–28.

- Bridges, S., Keller, K. L., & Sood, S. (2000). Communication Strategies for Brand Extensions: Enhancing Perceived Fit by Establishing Explanatory Links. *Journal of Advertising*, 29(4), 1–11. Retrieved from <http://www.jstor.org/stable/4189157>
- Broniarczyk, S. M., & Alba, J. W. (1994). The importance of the Brand in Brand Extension. *Journal of Marketing Research*, 31(May), 214–228.
- Broniarczyk, S.M. & Gershoff, A. D. (2003). The Reciprocal Effects of Brand Equity and Trivial Attributes. *Journal of Marketing Research*, 40(2), 161–175. doi:10.1509/jmkr.40.2.161.19222
- Buriyameathagul, K. (2013). Characteristics of Culture in Thai Society and Virtual Communities, 13(2), 207–270.
- Cavanagh, R. (2008). The Thai Smile, Jai Yen and Jai Rawn. Retrieved from <http://www.thaizer.com/culture-shock/the-thai-smile-jai-yen-and-jai-rawn/>
- Dacin, P. A., & Smith, D. C. (1993). The effects of adding products to a brand on consumer's evaluations of new brand extensions. *Advances in Consumer Research*, 20, 594–598.
- Dawar, N., & Anderson, P. (1994). The effects of order and direction on multiple brand extensions. *Journal of Business Research*, 30(2), 119–129.
- DelVecchio, D. (2000). Moving beyond fit: the role of brand portfolio characteristics in consumer evaluations of brand reliability. *Journal of Product & Brand Management*, 9(7), 457–471. doi:10.1108/10610420010351411
- De Mooij, M. & Hofstede, G. (2011). Cross-Cultural Consumer Behavior: A Review of Research Findings. *Journal of International Consumer Marketing*, 23(June), 181–192. doi:10.1080/08961530.2011.578057
- Draganska, M., & Jain, D. C. (2005). Product-Line Length as a Competitive Tool. *Journal of Economics & Management Strategy*, 14(1), 1–28. doi:10.1111/j.1430-9134.2005.00032.x
- Fedorikhin, A., Park, C. W., & Thomson, M. (2008). Beyond fit and attitude: The effect of emotional attachment on consumer responses to brand extensions. *Journal of Consumer Psychology*, 18(4), 281–291. doi:10.1016/j.jcps.2008.09.006
- Germany: Reaching the consumer (2016a). Retrieved from <https://en.santandertrade.com/analyse-markets/germany/reaching-the-consumers>
- Gottschalk, B., Kalmbach, R., & Dannenberg, J. (2005). Markenmanagement in der Automobilindustrie: Die Erfolgsstrategien internationaler Top-Manager. Wiesbaden. doi: 10.1007/978-3-322-90755-4\_2
- Hamilton, R., & Chernev, A. (2010). The Impact of Product Line Extensions and Consumer Goals on the Formation of Price Image. *Journal of Marketing Research*, 47(1), 51–62. doi: 10.1509/jmkr.47.1.51
- Heath, T. B., DelVecchio, D., & McCarthy, M. S. (2011). The Asymmetric Effects of Extending Brands to Lower and Higher Quality. *Journal of Marketing*, 75(4), 3–20. doi:10.1509/jmkg.75.4.3
- Hennig-Thurau, T. Houston, M. B. & Heitjans, T. (2009). Conceptualizing and Measuring the Monetary Value of Brand Extensions: The Case of Motion Pictures. *Journal of Marketing*, 73(6), 167–183. doi:10.1509/jmkg.73.6.167

- Hofstede, G., & Hofstede, G. J. (2005). Cultures and Organizations. Cultures and Organizations. doi:10.1007/s11569-007-0005-8
- Homburg, C. (2012). Marketing Management (4th Edition). Wiesbaden: Springer Gabler.
- Loken, B., & Roedder John, D. (1993). Diluting Brand Beliefs: When Do Brand Extensions Have a Negative Impact? *Journal of Marketing*, 57(3), 71–84. Retrieved from <http://www.jstor.org/stable/1251855>
- Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57(1), 1–22.
- Keller, K. L. (2013). Strategic Brand Management. Pearson.
- Keller, K. L., & Aaker, D. A. (1992). The Effects of Sequential Introduction of Brand Extensions. *Journal of Marketing Research*, 29(1), 35–50.
- Kirmani, A., Sood, S., & Bridges, S. (1999). The Ownership Effect in Consumer Responses to Brand Line Stretches. *Journal of Marketing*, 63(1), 88–101. Retrieved from <http://www.jstor.org/stable/1252003>
- Koch, M. (2012). The shrinking middle class. Retrieved from <http://www.dw.com/en/the-shrinking-middle-class/a-16457570>
- Kotler, P. (2000). Marketing Management, Millenium Edition. Marketing Management, 23(6), 188–193. doi:10.1016/0024-6301(90)90145-T
- Kotler, P., & Armstrong, G. (2012). Principles of Marketing. doi:10.1017/CBO9781107415324.004
- Lane, V., & Jacobson, R. (1995). Stock Market Reactions to Brand Extension Announcements: The Effects of Brand Attitude and Familiarity. *Journal of Marketing*, 59(1), 63–77.
- Lee, A. Y., Aaker, J. L., & Gardner, W. L. (2000). The pleasures and pains of distinct self-construals: The role of interdependence in regulatory focus. *Journal of Personality and Social Psychology*, 78(6), 1122–1134.
- Lee, A. Y., Keller, P. A., & Sternthal, B. (2010). Value from Regulatory Construal Fit: The Persuasive Impact of Fit between Consumer Goals and Message Concreteness. *Journal of Consumer Research*.
- MacInnis, D. J., Nakamoto, K., & Mani, G. (1992). Cognitive Associations and Product Category Comparisons: The Role of Knowledge Structure and Context. *Advances in Consumer Research*, 19(1), 260–267.
- Markus, H. R., & Kitayama, S. (1991). Culture and the Self: Implications for Cognition, Emotion, and Motivation. *Psychological Review*, 98(2), 224–253.
- Mercedes-Benz to launch midsize pickup. (2015). Retrieved from [http://www.mercedes-benz.com.au/content/australia/mpc/mpc\\_australia\\_\\_website/en/home\\_mpc/van/home/vans\\_world/news/mercedes-benz-launch-midsize-pickup.html](http://www.mercedes-benz.com.au/content/australia/mpc/mpc_australia__website/en/home_mpc/van/home/vans_world/news/mercedes-benz-launch-midsize-pickup.html)
- Monga, A. B., & John, D. R. (2010). What Makes Brands Elastic? The Influence of Brand Concept and Styles of Thinking on Brand Extension Evaluation. *Journal of Marketing*, 74(3), 80–92. doi:10.1509/jmkg.74.3.80



- Nijssen, E. J. (1999). Success factors of line extensions of fast- moving consumer goods. *European Journal of Marketing*, 33(5/6), 450–474. doi:10.1108/03090569910262044
- Park, W. C., Milberg, S., & Lawson, R. (1991). Evaluation of Brand Extensions: The Role of Product Feature Similarity and Brand Concept Consistency. *Journal of Consumer Research*, 18(2), 185–193. Retrieved from <http://www.jstor.org/stable/2489554>
- Randall, T., Ulrich, K., & Reibstein, D. (2000). Brand Equity and Vertical Product Line Extent. Symposium Abstracts.
- Randall, T., Ulrich, K., & Reibstein, D. (1998). Brand Equity and Vertical Product Line Extent. *Marketing Science*, 17(4), 356–379. doi:10.1287/mksc.17.4.356
- Rangaswamy, A., Burke, R. R., & Oliva, Terence, A. (1993). Brand equity and the extendibility of brand names. *International Journal of Research in Marketing*, 10(1), 61–75.
- Reddy, S. K., Holak, S. L., & Bhat, S. (1994). To Extend or Not to Extend: Success Determinants of Brand Line Extensions. *Journal of Marketing Research*, 31(2), 243–262.
- Roedder John, D., Loken, B., & Joiner, C. (1998). The Negative Impact of Extensions: Can Flagship Products Be Diluted? *Journal of Marketing*, 62(1), 19–32. Retrieved from <http://www.jstor.org/stable/1251800>
- Romeo, J. B. (1991). The Effect of Negative Information on the Evaluations of Brand Extensions and the Family Brand. *Advances in Consumer Research*, 18, 399–406.
- Rubin, D. B. (1973). Matching to Remove Bias in Observational Studies. *Biometrics*, 29(1), 159–183. doi:10.2307/2529684
- Sales figures Germany (2016). Retrieved from [http://www.marklines.com/en/statistics/flash\\_sales/salesfig\\_germany\\_2015](http://www.marklines.com/en/statistics/flash_sales/salesfig_germany_2015)
- Sales figures Thailand (2016) Retrieved from [http://www.marklines.com/en/statistics/flash\\_sales/salesfig\\_thailand\\_2015](http://www.marklines.com/en/statistics/flash_sales/salesfig_thailand_2015)
- Smith, D., & Park, W. (1992). The Effects of Brand Extensions On Market Share and Advertising Efficiency. *Journal of Marketing Research*, 29(3).
- Stuart, E. A. (2010). Matching Methods for Causal Inference: A Review and a Look Forward, 1–21. doi:10.1214/09-STS313
- Swaminathan, V., Fox, R. J. & Reddy, S. K. (2001). The Impact of Brand Extension Introduction on Choice. *Journal of Marketing*, 65(4), 1–15. doi:10.1509/jmkg.65.4.1.18388
- Taylor, S. (1997). Patron-client relationships and the challenge for the thai church.
- Wehr, A. (2013). Imagegestaltung in der Automobilindustrie: Eine kausalanalytische Untersuchung zur Quantifizierung von Imagetransfereffekten.
- Wölfer, U. (2004). Linienweiterungen (Line Extension). In *Handbuch Markenführung*.
- Yeung, C. W. M., & Wyer Jr., R. S. (2005). Does Loving a Brand Mean Loving Its Products? The Role of Brand-Elicited Affect in Brand Extension Evaluations. *Journal of Marketing Research*, 42(4), 495–506. doi:10.1509/jmkr.2005.42.4.495

## Appendix 1 – Tests of Normality

Table 1A

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Associations	.071	125	.196	.983	125	.108
Aesthetics	.330	125	.000	.779	125	.000
Comfort	.270	125	.000	.830	125	.000
Equipment	.365	125	.000	.760	125	.000
Innovation	.280	125	.000	.846	125	.000
Originality	.318	125	.000	.813	125	.000
Reliability	.283	125	.000	.837	125	.000
Horsepower	.283	125	.000	.870	125	.000
Solidity	.249	125	.000	.871	125	.000
Status	.308	125	.000	.730	125	.000
Value for money	.259	125	.000	.833	125	.000
Safety	.278	125	.000	.836	125	.000
Environmentally friendly	.256	125	.000	.893	125	.000
Affordability	.204	125	.000	.903	125	.000
Elegance	.324	125	.000	.791	125	.000
Likelihood	.329	125	.000	.782	125	.000
Satisfaction	.346	125	.000	.760	125	.000
Recommendation	.358	125	.000	.767	125	.000
Leadership	.335	125	.000	.725	125	.000
Fit	.148	125	.000	.915	125	.000
Complement	.179	125	.000	.906	125	.000
Substitute	.210	125	.000	.888	125	.000
Post Associations	.140	125	.000	.980	125	.060
Aesthetics change	.212	125	.000	.914	125	.000
Comfort change	.475	125	.000	.507	125	.000
Equipment change	.462	125	.000	.472	125	.000
Innovation change	.248	125	.000	.801	125	.000
Originality change	.351	125	.000	.733	125	.000
Reliability change	.307	125	.000	.815	125	.000
Horsepower change	.497	125	.000	.451	125	.000
Solidity change	.348	125	.000	.777	125	.000
Status change	.268	125	.000	.888	125	.000
Value for money change	.326	125	.000	.820	125	.000
Safety change	.334	125	.000	.759	125	.000
Environmentally friendly change	.424	125	.000	.582	125	.000
Affordability change	.442	125	.000	.584	125	.000
Elegance change	.239	125	.000	.814	125	.000
Likelihood change	.269	125	.000	.896	125	.000
Satisfaction change	.201	125	.000	.937	125	.000
Recommendation change	.136	125	.000	.931	125	.000
Leadership change	.240	125	.000	.898	125	.000

a. Lilliefors Significance Correction

## Appendix 2 – Reliability Statistics

Table 2A

Internal consistency		
Test	Cronbach's $\alpha$	N of Items
Germany pre-test	.94	18
Germany post-test	.70	18
Thailand pre-rest	.82	18
Thailand post-test	.85	18

Table 2B

Test-retest reliability Germany		
Variable	N	Spearman's $\rho$
Aesthetics	10	.929**
Comfort	10	.951**
Equipment	10	.949**
Innovation	10	.802**
Originality	10	1.000**
Reliability	10	.796**
Horsepower	10	.929**
Solidity	10	.861**
Status	10	.885**
Value for money	10	.859**
Safety	10	1.000**
Environmentally friendly	10	.904**
Affordability	10	1.000**
Elegance	10	.941**
Satisfaction	10	.816**
Recommendation	10	.808**
Leadership	10	.885**
Likelihood	10	.707*

\*\* . Significant at the 0.01 level (2-tailed).

\* . Significant at the 0.05 level (2-tailed).

Table 2C

Test-retest reliability Thailand		
Variable	N	Spearman's $\rho$
Aesthetics	10	.764*
Comfort	10	.988**
Equipment	10	.922**
Innovation	10	.896**
Originality	10	.849**
Reliability	10	.802**
Horsepower	10	.863**
Solidity	10	.966**
Status	10	1.000**
Value for money	10	1.000**
Safety	10	.901**

Environmentally friendly	10	.759*
Affordability	10	1.000**
Elegance	10	1.000**
Satisfaction	10	.655*
Recommendation	10	.609
Leadership	10	.809**
Likelihood	10	.791**

\*\* . Significant at the 0.01 level (2-tailed).

\* . Significant at the 0.05 level (2-tailed).

**Table 2D**

**Inter-rater reliability**

Test	Items	ICC
Germany	19	.960**
Thailand	19	.977**

\*\* . Significant at the 0.01 level (2-tailed).

**Appendix A3 – Measurement with Likert scales**

**Table 3A**

**Pre-test scales**

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Very unlikely	Unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Likely	Very likely
Very dissatisfied	Dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Satisfied	Very satisfied
1	2	3	4	5	6	7

**Table 3B**

**Post-test scale**

Strongly decreased	Decreased	Somewhat decreased	Neither increased nor decreased	Somewhat increased	Increased	Strongly increased
-3	-2	-1	0	1	2	3

## Appendix A4 – Line extensions

### Car pictures



### Car Introduction

XXX will expand its product range into a promising segment by launching the first pickup from a premium manufacturer. Thanks to their versatility, all-round utility, and payload of about one metric ton, pickups are popular across the world.

The midsize pickup segment is currently undergoing a transformation worldwide. More and more pickups are being used for private purposes, and commercial as well as private users are increasingly asking for vehicles that have car-like specifications. XXX is the first premium manufacturer to respond to this market shift by developing its own pickup.

#### Horizontal

"We will enter this segment with our distinctive brand identity and all of the vehicle attributes that are typical of the brand with regard to safety, comfort, powertrains, and value." – XXX.

#### Vertical

"We will enter this segment to compete with the main competitors in the markets. We plan to be successful by offering a pick-up with our distinctive brand identity on the same price level as the value brand competition." – XXX