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CImg's, BImg's and PImg's of Cosmetics

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**Special thanks to Mrs. Li Don Yong for her excellent technical assistance.**

\*Institute of Socio-Economic Planning, Univ. of Tsukuba

\*\*Design Research, Inc.

Please send correspondence to:

Institute of Socio-Economic Planning

University of Tsukuba

1-1-1 Tennou-dai

Tsukuba, Ibaraki 305

JAPAN

tel: 0298-53-5170, 5374 fax: 0298-55-3849

email: mazda@shako.sk.tsukuba.ac.jp

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## *Abstract*

*Despite frequent emphasis on the integrated images about the corporate, its brands and product packages, few empirical studies have been conducted. The present paper was designed in a hope of starting a new methodology for studying the subject matter, taking advantage of the recent visual and object-oriented programming technology. Employed visual stimuli were the logos (and the accompanying symbolic marks, if any) of the four leading cosmetic makers, the logos of their brands and the photos of product packages of skincare items sold for young females. 19 females subjects recruited at the University of Tsukuba served as subjects. They evaluated the stimuli with respect to four, five and eight items for the corporate (CImg), the brand (BImg) and the package (PImg) images. For analyzing the image inheritance, two of the CImg and all of the BImg items were used as internal anchors. Besides an internally anchored one, the remaining four brand image items were externally anchored according to the results of the jewelry matching task which was intended to facilitate Kansei processing. Two makers exhibited contrasting patterns in terms of both maker/brand discrepancies and image inheritance. Though there was some indication, the available data were not sufficient for explaining the contrasts by the type of business operations (specialized or diversified) or other factors. Among the important issues to be further examined are the mediation effect of the matching task and the directional effect of image evaluations (top-down vs. bottom-up).*

Key words: corporate-brand-package images, HyperScaling, Kansei processing, internal and external anchors

## Measuring Hierarchically Related Consumer's Images: CImg, BImg and PImg of Cosmetics

### 1. Introduction

The brand loyalty refers to the consumer's inclination toward purchasing goods of the same brand even if there is a model change. Purchasing a new car sold under the same model, but has gone through a substantial physical change, is a good example. Besides the behavioral aspect, there is a cognitive aspect in the loyalty such as faith. From the manufacturers' point of view, however, the brand loyalty alone may not be sufficient. It is desirable for them to enclose consumers under an integrated image or concept when consumers upgrade models or purchase goods in different product categories, for instance, a piano and a motorcycle of Yamaha. The corporate identity, CI in short, expectedly embraces such an image. The benefit accruing from successful image management must be truly appreciated in view of the rising cost of developing new brands (see *Economists*, 1990; Simon & Sullivan, 1990). Thus, it is important to infuse in the mind of consumers the hierarchically-related images of brands and products under a given CI. Cosmetics undoubtedly represent a class of products about which such images play important roles not only at the time of purchasing but in daily use. It is, thus, one of the typical merchandize *Kansei* or arational (information) processing bears significance (see, for example, Namagachi, 1993). Our working definition of *Kansei* is presented at the end of this section.

Cosmetic products are classifiable into several categories according to their functions--haircares, skincare, makeups that includes foundations, fragrances and so forth. Makers usually develop multiple brands in each category to suit various consumers' tastes besides their concerns with quality and price. Multiplicity also applies to the number of product items of a brand. It is not rare to see in the women's cosmetic market more than one item sold under a single brand. But great care is taken in the package design in order to give an integrated image, since companies are realizing the power of good packaging to create instant consumer

recognition of the company and the brand (Kotler & Armstrong, 1987). We often see nicely arranged logos and symbolic marks in the product packages. Unified coloring is another effective means for such recognition. Sometimes the physical form of a container can become a vital symbol like the classic Coca Cola bottles. The purpose of the present work is to examine consumers' images or feelings about logos, marks and physical appearances of cosmetic products that reflect the maker's effort of conveying hierarchically related concepts or identities--i.e., CImg's (Corporate Images), BImg's (Brand Images) and PImg's (Package Images).

The recent progress in the visual and object-oriented programing technologies offers a promising platform for implementing our goal. A basic technical advantage is that both stimuli and scaling objects can be programmed such that subjects can directly act on them on a computer display. Another advantage is the ease of usage of previous responses as anchors for the evaluation of the present stimuli. An anchor may be either internal or external to a subject in that it may be his/her own response previously made or it is adopted from, say, an expert's opinion. The subject can, then, adjust the value according to the on-going feelings. As is well known today, anchoring-and-adjustment is one of the three major judgmental heuristics (see discussions in Kahneman, Slovic and Tversky, 1982). But, it is usually treated as a source of a bias, or a deviation from an objective criterion, be it an almanac fact or a formal solution. We rather value its merit as a judgment aid, particularly in the case like the present study where stimuli to be judged are hierarchically related. All these ideas will be put into practice by extending the HyperScaling software developed by Matsuda (1993) by virtue of its capacity for measuring vague human perceptions accruing from the lack of perfect knowledge or sufficient knowledge of variations.

Despite the frequent emphasis on brand images in the product management (e.g., Hayashi, 1990; Kotler, P., & Armstrong, G. 1987; Nishikawa, 1990; Urban, Hauser & Dholakia, 1987), few empirical research was conducted (nor even suggested) in the past on the perceptions of the hierarchically related images. The present work is aimed at making a modest contribution to the marketing field in

this respect. Since this is a pioneering study, we have decided to focus on a single category of cosmetics, i.e., *skincare*, rather than to attempt a comprehensive research. Skincare is the basic necessity and familiar to many people as reflected in the large share (approximately 50%) in the cosmetic market. Also, the understanding of its perceptions seems to be of great value in terms of generality, since there is a tendency among consumers satisfied with the skincare items currently in use to choose products of other categories from the same maker or of the same brand, if available.

We close this section with our working definition of *Kansei* information processing or understanding. *Kansei* is often juxtaposed with rationality, but it is certainly not an antonym of the latter. Also, it is hard to translate into an English equivalent. Suffice it to say, here, is that the two constitute our intelligent information processing in a broad sense, but *Kansei* is more fundamental than rationality. In short, rational information processing or understanding is guided by the principles of consistency, completeness, rigor, non-redundancy and the like. *Kansei* processing, in contrast, allows nonconsistency, partiality and other deviations of the rational principles to some reasonable extent, reasonableness being relative to social environments of the time. Therefore, *arationality* seems to be a plausible translation.

## 2. Method

*Subjects.* 19 young female volunteers, students or employees of the University of Tsukuba, participated in the research. Their ages ranged from 19 to 24.

*Stimuli.* Four leading companies (in terms of the market share) were selected: *Shiseido, Kao, Kanebo* and *Kosé*. (They together accounted for more than 60% of the market share in the year prior to this study). Among several skincare brands sold by them, we selected those targeted for the age group to which our subjects belong: *Chyria/Kanebo, Intelligé/Kosé, Facebalance/Kao* and *Premier/Shiseido*. Their trademarks were digitally scanned to be used as stimuli. Also scanned were the photo-pictures of their product packages consisted of three to 5 items. In addition, pictures of 12 decent-grade jewelry were scanned and their images were judged on 10 items by a product-design expert prior to the experiment. Her responses to four of these items (*wholesome, clean, gentle* and *soft*) were used as external anchors to the brand images in the experiment. All the image items for both the jewelry evaluation and the experiment were determined on the basis of the field experiences of the second author in product designing and marketing.

*Procedures.* The experiment was run individually. Each subject responded to the inquiries displayed on a 17" display connected to a Macintosh/Centris-650 by manipulating the mouse on HyperCard objects (graphics, buttons and fields). Presentation of the stimuli and the most instructions were controlled in HyperCard. Introductory and supplementary instructions were provided by a research assistant.

There were four HyperCard stacks prepared for the project: one navigational, one practice and two task stacks. The navigational stack contained the general control scripts for the project, too. The practice stack oriented subjects to the functions of skincare along with other cosmetic classes. Subjects also learned how to manipulate displayed objects by clicking or dragging. Then, they practiced two of the key modes of HyperScaling--dragging a scale button in two dimensions



and three buttons of the triple-value scaling in one dimension. The latter, triple-value method is suitable for measuring vague judgments: In the present application, subjects were first asked to indicate the lowest and the highest values for an inquiry item by sliding respective buttons. Once these were set, a third scale button appeared on the display for the most representative value within the interval bounded by the other two buttons. By default, it was placed in the middle of the interval after the findings of Matsuda, Shinoda and Takemura (1994). The merit of the triple-value approach was, however, confined to the measurement stage in the present work due to the limit of space. Their properties in responses will be analyzed in a separate study.

The example used in the practice session was a possible price range and the most likely price of a hypothetical set of skincare products that were graphically displayed. The two-dimensional scaling was practiced on the physiological and psychological functions of skincare.

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 Insert Figure 2.1 about here  
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In the first task stack (Stage 1), the subjects identified corporate slogans by dragging fields. This identification job was expected to arouse the corporate and related images in their minds. On the subsequent card, they expressed their corporate images (CImg's) with respect to the two pairs of items on two dimensional [0,10] scales (see Figure 2.1):

*stylish vs. friendly ;      reliable vs. prestigious*

The logo, and the symbol mark if accompanied, for each company was presented as a stimulus. The responses to the former pairs were adopted as internal anchors for the brand (*stylish*) and package (*friendly*) images in the second task stack.

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 Insert Figures 2.2 and 2.3 about here  
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The brand and the package images (BImg's and PImg's) were measured in triple values in Stage 2 (see Figure 2.2): the lower and the upper boundaries with the most representative value within the interval. Before the subjects scaled their

brand images, they matched the jewelry photos with the brand logos according to their feelings (see Figure 2.3). Upon completion of matching, subjects then moved to the evaluation of each brand with respect to the following four items on [0,10] the uni-dimensional scales:

*wholesome, clean, gentle, soft and stylish*

The starting values of these items were anchored to the external or internal sources. The external ones were adopted for the first four items from the expertise evaluation of the jewelry. Hence, they differed among subjects depending on their matching results. The internal one for the last item was the subject's own CImg on the item produced in the first stage. The five BImg items as well as a CImg item "*friendly*" were repeated in the measurement of PImg's which included two additional items, i.e., *effective* and *appealing*. As is clear, *stylish* is the only item shared by the three image classes. The brand names were shown in katakana below the photos of the brand logos in a hope to make them readable and elicit the brand images as a whole, not just the physical appearances.

The experiment ended with an application to a trial kit from the products they just evaluated. The opportunity was always indicated in the navigation stack in order to maintain the subjects' interest in the project. (A more detailed description of the stacks is available from the first author upon request.)

### 3. Results

Naive and untrained subjects usually differ in their interpretations and the usage of scales, making strict metric treatment of their data unwarranted. Hence, we mostly employed the ordinal information of our data in the analysis as a conservative precaution.

#### 3.1 Analysis of images by level

Listed in Tables 3.1, 3.2 and 3.3 are the median scores of the corporate images (CImg's), the brand images (BImg's) and the package images (PImg's). To facilitate comparisons, they are plotted in Figures 3.1, 3.2 and 3.3 with the associated 90%-ranges bounded by the 10 and 90 percentiles. These ranges are more suitable than the ordinary ones by virtue of the exclusion of extreme cases.

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 Insert Tables 3.1, 3.2 and 3.3 & Figures 3.1, 3.2 and 3.3 about here  
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3.1.1 Corporate images (CImg's). As shown in Table 3.1, *Shiseido* recorded the highest medians on all the image items (9.0, 8.2, 7.7 and 8.4 for *stylish*, *friendly*, *prestige* and *reliable*, respectively), though there was a tie with *Kao* on item *friendly*. Besides the most favorable images, it received the best agreement among the subjects as reflected in the smallest or nearly smallest 90%-ranges on item *stylish* (2.6), *friendly* (4.9) and *prestige* (4.7). The difference with *Kanebo* on item *friendly* (4.8) was minor. The image of the company, however, was most widely dispersed on *reliable* (6.2) as compared to the other companies.

The favorable images of *Shiseido* was further confirmed by the *Kendall's* test on the rank information of the companies of each item. First, the company had the highest mean ranks on items *stylish* (3.84), *prestige* (3.18) and *reliable* (3.45). Second, the coefficients of concordance on these items were all significant ( $p < .038$ )-- $w = .567$ ,  $.147$  and  $.251$ , respectively. The makers were ranked in order of *Shiseido*, *Kose*, *Kanebo* and *Kao* on the item with the high concordance, *stylish*. *Shiseido* was second to *Kao* on item *friendly* in the mean rank with a minor

difference (0.01) like the case of the median scores on the same item. The concordance on the item was not significant ( $w=.119$ ,  $p > .079$ ).

In order to examine the within-corporate consistencies of images, the *Kendall's* tests were also performed on the image items for each maker. Only *Kosé* failed to gain significant concordance ( $w = .022$ ,  $p > .745$ ). However, even the significant coefficients ( $p < .012$ ) of *Kanebo* (.239), *Kao* (.193) and *Shiseido* (.229) were small in size.

3.2.2 Brand images (BImg's). Noticeable was the lowest medians of *Chyria* among the studied brands on four out of five items (see Table 3.2)--*wholesome* (5.1), *clean* (5.3), *gentle* (4.2) and *soft* (3.6), despite the comparatively better images of its maker, *Kanebo* (see Table 3.1). The maker-brand discrepancy also appeared in the *Shiseido-Premier* pair. *Premier* failed to inherit the extensive superiority of its makers images, particularly on the anchored item *stylish* to be referred to later. The items *Premier* recorded the highest medians were *clean* (8.0), *gentle* (7.7) and *soft* (7.1) which was tied by *Kao*. Similarly, the brand was less extensive in the best agreement among the subjects than its maker. It recorded the minimum dispersions, in terms of 90%-ranges, on four out of the five items--*clean* (3.5), *gentle* (2.2), *soft* (2.2) and *stylish* (4.1).

The relative standings of the brands were fairly consistent among subjects on each image item: The *Kendall's* coefficients were significant ( $p < .027$ ) for all items, although their sizes were either moderate--*clean* ( $w = .533$ ), *gentle* (.413) and *soft* (.338)--or small--*wholesome* (.260) and *stylish* (.161). *Premier* scored the highest mean ranks on both items with the medium  $w$ --3.24 (*clean*), 3.29 (*gentle*) and 3.18 (*soft*). The opposite was true for *Chyria* which recorded the lowest mean ranks on these items--1.13, 1.34 and 1.47, respectively.

The within-brand concordance of the images was significant ( $p < .02$ ) for *Chyria* ( $w = .258$ ) and *Facebalance* (.155), but nonsignificant ( $p > .12$ ) for *Intelligé* (.098) and *Premier* (.039). Like the case of the within-corporate concordance, even the significant coefficients were small in size. The similar tendencies were observed regarding the PImg's to be presented below.

3.2.2 Package images (PImg's). Two trends of image inheritance were noticeable. On one hand, the most favorable status of *Shiseido* (CIImg's) were replicated in its package images, the PImg's of *Premier*. That is, the *Premier* packages scored the highest medians on 7 out of 8 items--*friendly* (8.3), *appealing* (6.3), *wholesome* (7.7), *clean* (7.8), *gentle* (7.6), *soft* (7.6) and *stylish* (7.0). On the other hand, the least favorable status of *Chryia* (BIImg's) were inherited in the lowest medians of its PImg's on 7 out of 8 items--*friendly* (4.6), *effective* (5.6), *appealing* (4.7), *wholesome* (5.6), *clean* (5.6), *gentle* (5.1) and *soft* (4.8). The sources of the single exception of each case were the highest median on item *effective* (6.7) and the lowest median on *stylish* (6.1) both pertaining to *Facebalance*.

The *Premier* packages inherited the best agreement among the subjects from its maker's images only on half of the items. It retained the smallest 90%-ranges on items *friendly* (3.1), *gentle* (2.1) and *soft* (3.2) and *stylish* (2.8). No consistent patterns were present in the rest of the items.

The *Kendall's* test of concordance revealed the fairly consistent within-subject rankings of the PImg's: The coefficients of concordance were significant ( $p < .046$ ) on all items except for *effective* ( $p = .144$ ). However, the coefficients of the medium size were limited to *friendly* ( $w = .524$ ), *clean* (.431) and *soft* (.373). The rest of the significant ones ranged from *effective* (.095) to *wholesome* (.222). *Premier* scored the highest mean ranks on the items with the medium  $w$ --*friendly* (3.71), *clean* (3.24) and *soft* (3.21), whereas *Kanebo* recorded the lowest mean ranks on these items--1.45, 1.29 and 1.42, respectively.

Like the CIImg's and the BIImg's, the concordance coefficients among the PImg's were all small or slightly medium in size for each package set, despite of their statistical significance ( $p < .023$ ). They varied from .122 (*Kose*) to .308 (*Shiseido*).

### 3.2 Analysis of the anchored images

The relationships of the anchored images were analyzed with respect to the changes in the median image scores and the rank-order correlations supplemented

by the product-moment correlations. The significance level was relaxed to .058 for the sake of perspicuity of explanation.

**CImg→BImg** (*stylish*); **CImg→PImg** (*friendly*)

1) Changes in the medians. *Shiseido* was the only maker whose median image on the anchored item, *stylish*, decreased (by 2.2) between the CImg and the BImg, while all the other makers increased their images by 1.2 (*Kanebo*), 0.4 (*Kosé*) and 0.9 (*Kao*) (see Tables 3.1 and 3.2). The direction of changes was reversed for the item *friendly*: *Shiseido* slightly increased its image by 0.1 between the CImg and the PImg, while the images of the other makers decreased by 2.5 (*Kanebo*), 0.4 (*Kosé*) and 1.3 (*Kao*) (see Tables 3.1 and 3.3). The patterns of contrasts were the same in the median and mean differences in both items. (The numbers were omitted here to save the space.)

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Insert Table 3.4 about here  
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2) Correlations. The *Kendall's* rank-order correlations were computed on item *stylish* between CImg and BImg (see Table 3.4). The coefficients were medium in size and significant ( $\tau_b = .321, p = .058$ ) for *Kanebo/Chyria*, and small for the other maker/brand pairs ( $|\tau_b| < .246, p > .149$ ). The size and the significance of the Pearson's correlations were in agreement with these. However, on item *friendly* (between CImg and PImg), the two correlations agreed only for *Kanebo/Chyria* ( $\tau_b = .102, r = .181, p > .459$ ). The *Kendall's*  $\tau_b$ 's were medium in size and significant for *Kosé/Intelligé* (.494,  $p = .004$ ) and *Shiseido/Premier* (.370,  $p = .031$ ), while they were small and nonsignificant ( $\tau_b = .173, p = .309$ ) for *Kao/Facebalance*. The Pearson's coefficients indicated stronger and significant correlations for *Kosé/Intelligé* ( $r = .672, p = .002$ ) and *Kao/Facebalance* ( $r = .444, p = .057$ ), but weaker and nonsignificant for *Shiseido/Premier* (.135,  $p = .581$ ). Exclusion of the outliers (one at a time) did not alter the disagreement between the two correlations.

**BImg→PImg** (*wholesome, clean, gentle, soft and stylish*)

1) Changes in medians. Most of the absolute differences of the medians

between the BImg's and the PImg's were less than 0.9. Two of those that exceeded 1.0 were the increases in item *soft*--1.2 (*Chyria*) and 1.5 (*Intelligé*). The other one in excess of 1.0 was the decrease in item *wholesome* (1.3) of *Facebalance*. The patterns of contrasts were the same in the median and mean differences in both items.

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 Insert Table 3.5 about here  
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2) Correlations. Most of the rank-order correlations were significant ( $p \leq .030$ ) as listed in Table 3.5. Particularly, those pertaining to item *clean* were large or nearly large in size: .527 (*Chyria*), .673 (*Intelligé*), .651 (*Facebalance*) and .748 (*Premier*). Those of the item *wholesome* ranged from .368 (*Premier*) to .506 (*Intelligé*). Items *gentle* and *soft* yielded two strong correlations both pertaining to *Facebalance* --*soft* (.717) and *gentle* (.671). The other significant coefficients of these items were medium in size, ranging from .326 (*Intelligé* on *soft*) to .482 (*Intelligé* on *gentle*). There was a nonsignificant one on item *soft* that belonged to *Premier* (.198,  $p = .246$ ). The significant coefficients of item *stylish* were medium in size--.438 (*Intelligé*) and .478 (*Facebalance*). The other two were nonsignificant ( $p > .105$ )--.119 (*Chyria*) and .276 (*Premier*). The Pearson's correlations were in agreement with these results.

#### 4. Discussion

Consumers do not simply buy the core functions of marketed products, but they also pay for the perceived added-values of brands such as the consistency of quality, status, life-style and so forth (see Kotler, 1987). The popular branding strategy in the field of cosmetics is the mixture of multi-brand and brand-extension in that a maker develops multiple brands within a category of cosmetics for various targets, and, at the same time, extensively uses a brand across categories. The underlying idea is straightforward: To enclose consumers from an entry to a matured level by multiple brands and satisfy different sorts of needs by brand-extension under integrated images.

What comes at the top of these related images is that of a maker. Among the four leading makers studied here, *Shiseido* enjoys the largest market share in cosmetics (25 to 30%) and its ads appear more frequently than the other makers in the major women's magazines with the ratio of 4 to 1. Its foremost market standing and campaign activities are favorably reflected in the corporate images (CImg's). In other words, it has established its name value, although much more investigations needs to be conducted to confirm this interpretation.

The name value of *Shiseido*, nevertheless, turned out to be less extensive about its brand images (BImg's). The other maker/brand image discrepancy was observed with the combination of *Kanebo/Chyria*. After the experiment was completed we learnt from a reliable source that the maker was going to cease the brand. As reported in the previous section, the brand was least favorably imaged in most items. This is another piece of evidence that our data are congruent with the market trend even without the knowledge of a specific plan of the makers.

The contrasting patterns between *Premier* and *Chyria* persisted, or inherited, in the package images (PImg's). However, this does not mean that the subjects merely repeated the same images. Of special interest in this regard are the shifts of *Shiseido/Premier* images on the anchored item *stylish*. While *stylish* was the



most highly valued item of the maker, it recorded the lowest value among its brand images (BImg's). It remained relatively low in the package image, being fifth among 8 PImg items. Moreover, the correlations for the pair were weak on this item.

The image shifts of *Kanebo/Chyria* on the item ran counter to the above, though not perfectly. While *Stylish* was the least valued item of the maker, both its brand and package were most highly valued on the item. These contrasts appear to be attributable, to some extent, to the type of business operations of the two companies, i.e., mostly specialized in cosmetics (*Shiseido*) or diversified (*Kanebo*). Had the same contrast patterns been observed between the other pair of specialized and diversified makers, *Kosé/Intelligé* and *Kao/Facebalance*, this interpretation would become more plausible. Nonetheless, in our preliminary results of dual scaling on the CImg data, there was a slight indication of a split between the specialized (*Shiseido* and *Kosé*) and the diversified (*Kanebo* and *Kao*) makers ( $\chi^2(5)=7.78, p=0.17$ ).

The major advantage of the present approach in studying related images lies in the interactive adjustment of responses. Despite the lack experience in both surveys and computer use, our subjects happily engaged in their tasks by manipulating the objects on the screen. More importantly, they reported after the experiment that their motivation was raised by observing their previous responses reappeared, or mediated through the jewelry images, on the anchored items. According to their reports, our method not only induced the strong sense of involvement, but made it easier to express their natural feelings about the stimuli. Yet, a caveat seems necessary here against the blind-belief of its benefits, since anchoring-adjustment has been pointed out as a cause of possible biases in judgment (see the papers in Slovic, Kahneman & Tversky, 1986). Due to the consideration of mental load of our subjects, our study was not designed to provide a direct answer to this problem. However, the average amount of absolute amount of adjustments was 1.08, close to that of the unanchored items (1.51). (Notice that the starting value for the unanchored items were the mid-points of the

scales.) We believe that a bias, if any, did not seriously affect our results.

One may argue that the unanchored items were in fact anchored at the mid-point of the scales. Hence, the small difference in adjustment is not surprising, and the comparison should have been made against truly unanchored items like ordinary surveys. To this criticism, we emphasize that subjects almost always have starting values from which they arrive at the final judgment. In ordinary surveys, researchers have no control over the 'spontaneous', and sometimes unconscious, starting values. In this regard, we employed controlled starting values whether they were the (internal and external) anchors or the mid-points of the scales. Perhaps, we should have called them as neutrally controlled anchored rather than unanchored. But, this is a matter of terminology and does not affect our work in the substantive sense. Of more interest to us is the effect of external anchors as compared to own-generated internal ones.

There were two factors in the present arrangement of the external factors. On one hand, the use of responses generated by an external source, and, on the other, mediation of the matching task. Firstly, in the days of world-wide network communication, psychological processing of the former type information deserves full investigations beyond the scope of the Delphi method which has been used for technological predictions among expertise. Today, consumers collect and exchange their opinions and other information on networks. Be they expert's judgment or some kind of modal tendencies, the chances are that consumers will take them into considerations in forming or modifying their own ideas. Secondly, the mediation processing poses more immediate questions to be solved.

The jewelry matching task was employed in the present work for two reasons., i.e. use of external anchors and nonverbal processing of images. Concerning the latter, we believe that images consumers hold are mostly nonverbal and far less distinctive than questionnaire items are designed to capture. The present matching task was expected to aid the *Kansei* information processing in this respect. Jewelries were chosen among other alternative because of the attribute shared with cosmetics, i.e., valuable means for beauty. This mediation effect is to be

investigated in our forthcoming study.

We conclude the paper by pointing out another important issue worth investigation, i.e., the possibility of directional effects. Our subjects evaluated the images downwardly from the CImg's to the PImg's. However, consumers are not necessarily aware of the maker of a package they are interested in or considering a purchase, being inattentive to the maker's name printed on a packages. The same may hold for the brand name, though far less likely. A comparison of the present findings with those resulting from a bottom-up study is expected to help us gain deeper insights on the subject.

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Table 3.1 The median CImg's

item	<i>Kanebo</i>	<i>Kosé</i>	<i>Kao</i>	<i>Shiseido</i>
<i>stylish</i>	5.6	6.8	5.1	9.0
<i>friendly</i>	7.1	6.7	8.2	8.2
<i>prestige</i>	7.2	6.9	6.9	7.7
<i>reliable</i>	5.8	6.1	6.1	8.4

Table 3.2 The median BImg's

item	<i>Chyria</i>	<i>Intelligé</i>	<i>Facebalance</i>	<i>Premier</i>
<i>wholesome</i>	5.1	6.7	7.9	7.0
<i>clean</i>	5.3	7.1	7.0	8.0
<i>gentle</i>	4.2	6.1	6.6	7.7
<i>soft</i>	3.6	5.6	7.1	7.1
<i>stylish</i>	6.8	7.2	6.0	6.8

Table 3.3 The median PImg's

item	<i>Chyria</i>	<i>Intelligé</i>	<i>Facebalance</i>	<i>Premier</i>
<i>friendly</i>	4.6	6.3	6.9	8.3
<i>effective</i>	5.6	5.9	6.7	6.1
<i>appealing</i>	4.7	5.9	5.7	6.3
<i>wholesome</i>	5.6	5.9	6.6	7.7
<i>clean</i>	5.6	7.7	6.9	7.8
<i>gentle</i>	5.1	6.4	6.6	7.6
<i>soft</i>	4.8	7.1	6.2	7.6
<i>stylish</i>	6.5	6.8	6.1	7.0

Table 3.4 The rank-order correlations ( $\tau_b$ ) of the anchored images

item	Maker/Brand			
	<i>Kanebol</i> <i>Chyria</i>	<i>Kosél</i> <i>Intelligé</i>	<i>Kaol</i> <i>Facebalance</i>	<i>Shiseido</i> <i>Premier</i>
CImg x BImg: <i>stylish</i>	.321 (.058)	.107 (.527)	.246 (.149)	-.049 (.777)
CImg x PImg: <i>friendly</i>	.102 (.549)	.494 (.004)	.173 (.309)	.370 (.031)

Note: The significance levels are indicated in the parentheses.



Table 3.5 The rank-order correlations ( $\tau_b$ )  
of the anchored images: BImg x PImg

item	<i>Chyria</i>	<i>Intelligé</i>	<i>Facebalance</i>	<i>Premier</i>
<i>wholesome</i>	.408 (.016)	.506 (.003)	.466 (.006)	.368 (.030)
<i>clean</i>	.527 (.002)	.673 (.000)	.651 (.000)	.748 (.000)
<i>gentle</i>	.389 (.022)	.482 (.004)	.671 (.000)	.475 (.007)
<i>soft</i>	.451 (.008)	.326 (.054)	.717 (.000)	.198 (.246)
<i>stylish</i>	.119 (.483)	.438 (.009)	.478 (.005)	.276 (.105)

Note: The significance levels are indicated in the parentheses.

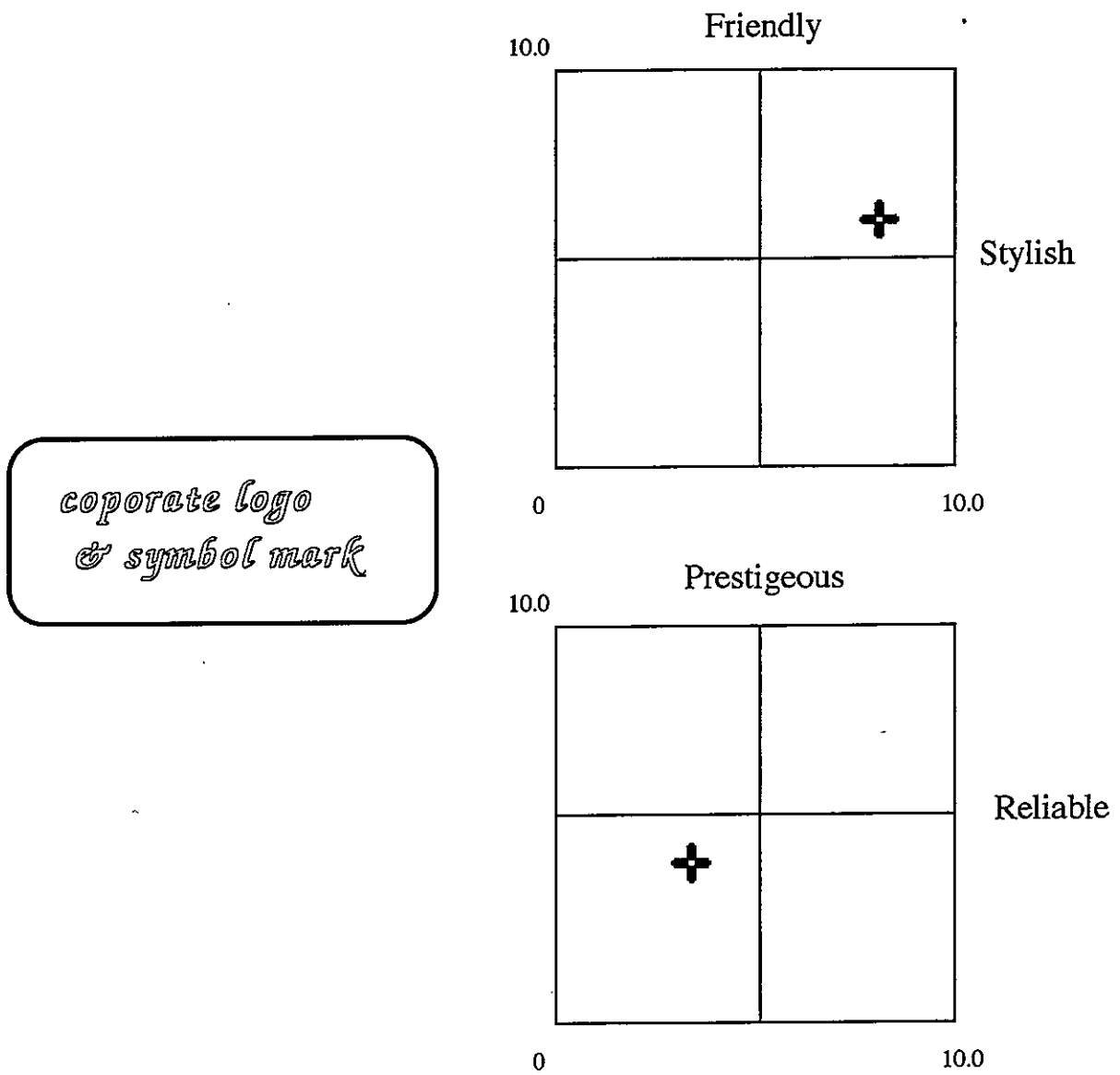


Figure 2.1 Two-dimensional measurement of the CImg's

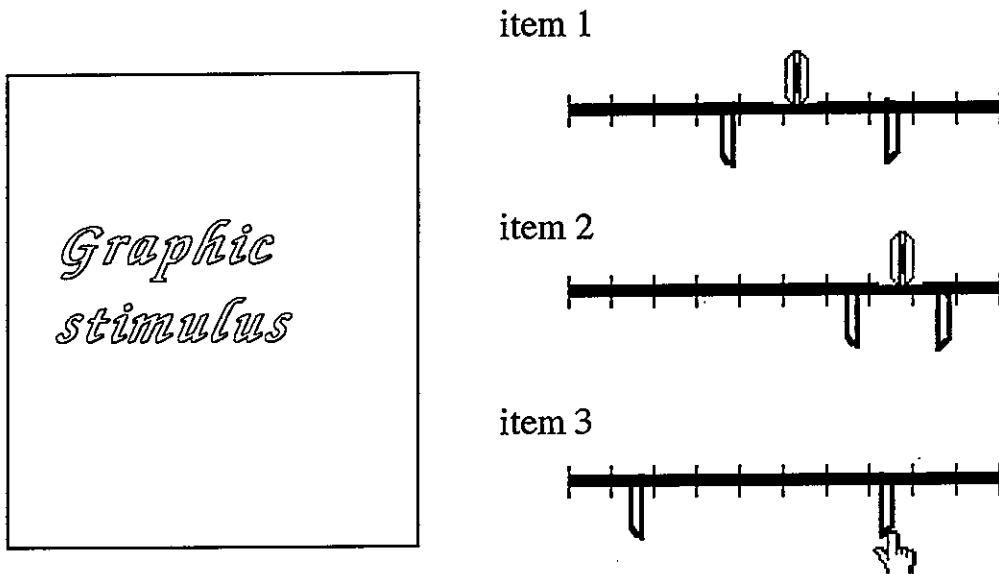


Figure 2.2 Basic design of the triple-value measurement

Note: A button for the most representative value is about to appear for Item 3 upon releasing the upper-value button.

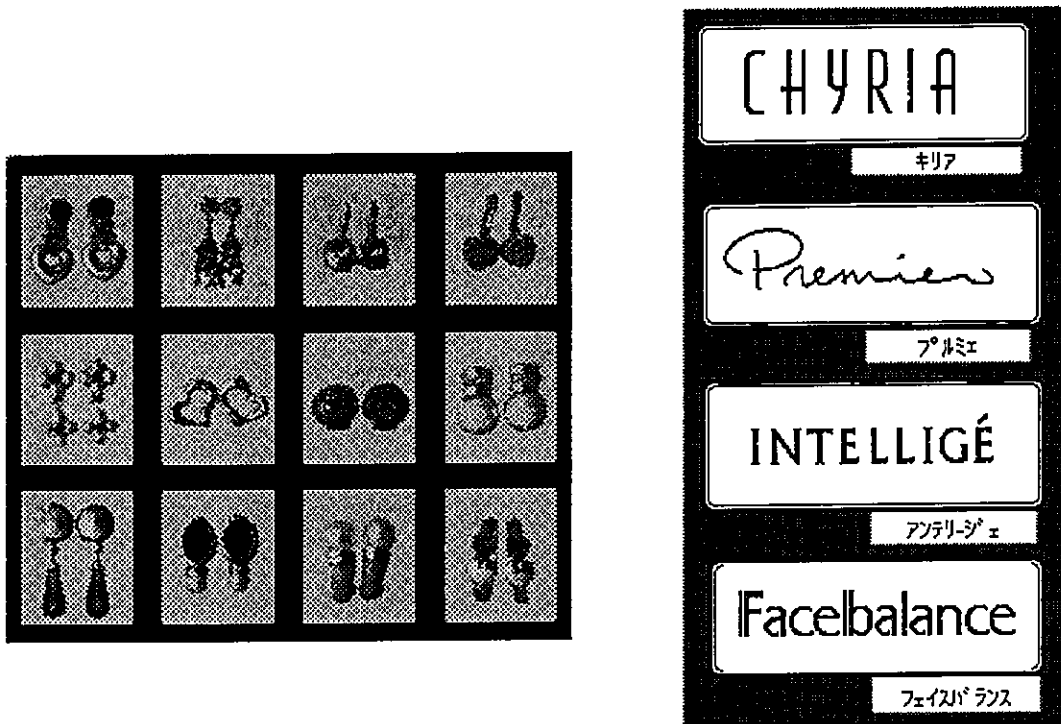


Figure 2.3 Matching the brand images with jewelry

Note: The jewelry pictures appeared in full color on the display. A subject could drag them to the matching brands.

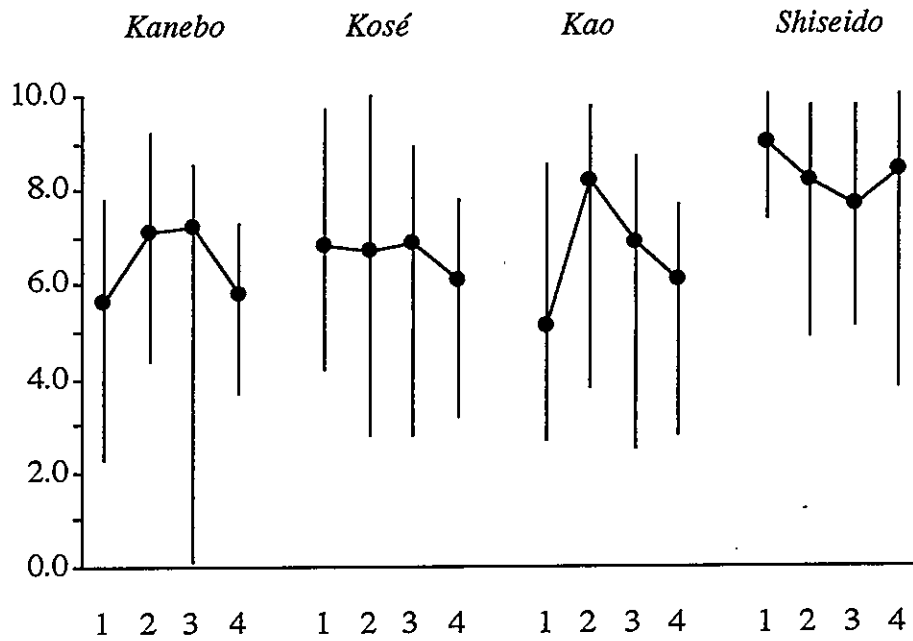


Figure 3.1 The medians and the 90%-ranges of the CImg's

Note: The image items are 1) stylish, 2) friendly,  
3) prestigious and 4) reliable.

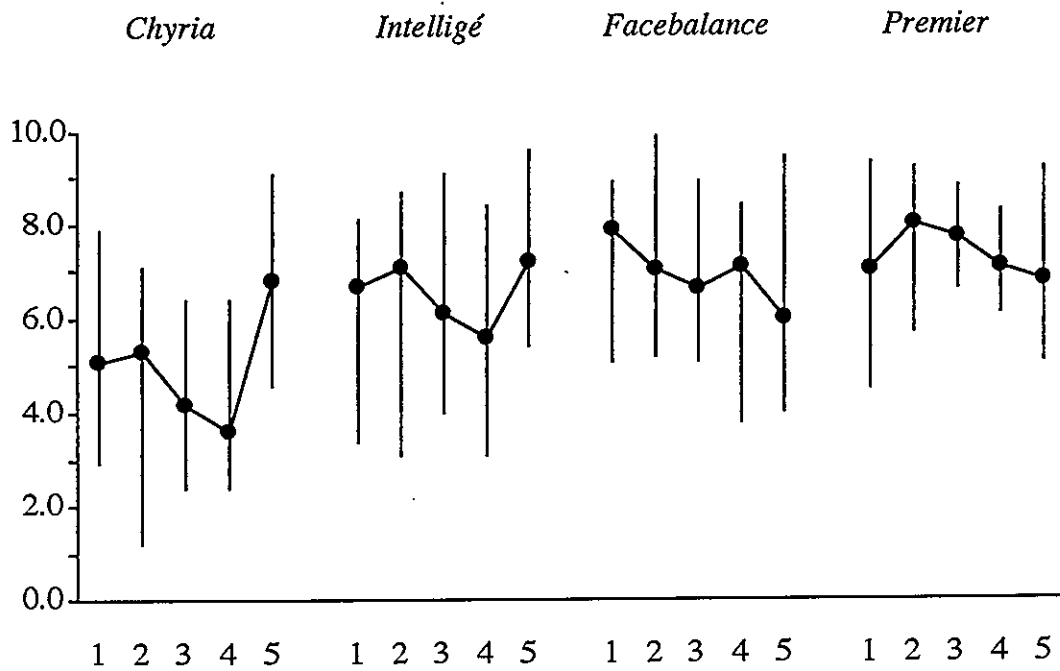


Figure 3.2 The medians and the 90%-ranges of BIImg's

Note: The image items are 1) wholesome, 2) clean, 3) gentle, 4) soft and 5) stylish.

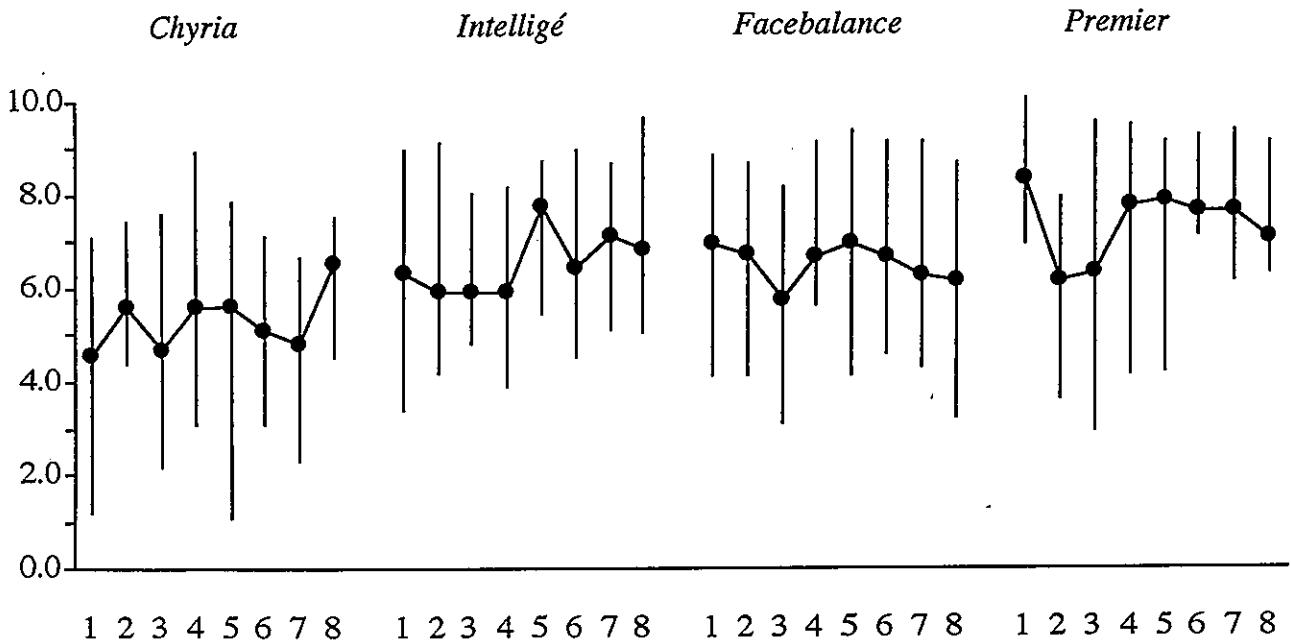


Figure 3.3 The medians and the 90%-ranges of the PImg's

Note: The image items are 1) friendly, 2) effective, 3) appealing, 4) wholesome, 5) clean, 6) gentle, 7) soft and 8) stylish.