

EXPLORING THE PLEASURE DESIGN FACTORS OF RELIGIOUS PRODUCTS – A CASE STUDY OF JAPANESE KOEMA

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ABSTRACT

Religion is able to reflect people's spiritual beliefs and has the purpose of preserving and promoting cultures. Contemporary religions have evolved from sacredness to science, and from science to consumption. The public seeks solace and satisfaction from the consumption of products, which is an advantage of religious cultures. Therefore, applying the concept of pleasure design to religious products can enhance the quality of religious beliefs and improve the connotations of religious culture. This study aims to establish a measurement model for the pleasure designs of religious products and provide a reference for application in related industries. The results show that 1. the pleasure design effect scale developed in this study is practical; 2. the pleasure design of religious products should place more emphasis on exquisite paintings and unique shapes; 3. the characteristics of popular religious products include having a beautiful graphic design, a great degree of style, a highly contextualized image, design variety, and cultural significance.

Keywords: Religious culture, Religious product design, Pleasure design, Product design

1. INTRODUCTION

Religion is imperative to the functioning of societies. It is also an integral part of our lives, history, and culture. Religion is characterized by daily-life values, social identity, as well as creativity. Unlike those of the past, modern religious venues not only serve as places that offer spiritual sustenance, but also serve as important forces of tourism and commerce. Another example of this latter function is the incorporation of religious elements, attitudes, and values in commercial products. The reach towards the public is further expanded through diversified religious product design. In addition to offering tangible items, religious products also offer intangible religious meaning and value. The sales performance and added value of religious products are often significantly greater than those of other products. Amulets and lucky charms

are used in the practices of all religions around the world, and they can be produced in a variety of forms such as small items that people carry around. In Japan, shrines and temples offer products in keeping with modern consumer tastes to encourage consumer spending; these include entry tickets, souvenirs, and various products with religious design elements (such as omamori, koema, ningyo, etc.) (Watts and Loy, 1998). For the reasons described above, many tourists visit shrines in Japan, and because many shrines are also world-renowned cultural heritage sites, locals and tourists all tend to buy prayer charms and koema. Koema is also said to be more meaningful than lucky charms because it is the result of the combined efforts of the shrine, the artist, and the prayer.

In contemporary religions, we see an evolution from the spiritual to the scientific, and subsequently to the consumption of religious goods by mass consumers who seek satisfaction from spending and purchasing. Furthermore, mass media nowadays have an increasing influence on religions and religious goods, and religious cultures signify good business opportunities. As evident in the United States in the last fifty years, more than 90% of its population hold a religious belief. Thus, from the economic behavior perspective, we can say that almost 90% of its population are religious goods consumers (Kitiarsa, 2012). Researchers have commonly examined the pleasure design of religious products by analyzing a product's features to understand its cultural characteristics and aesthetic expression, which can enhance the aesthetics of the product design and expand the presence of the product in the economy (Yen, Lin, & Lin, 2016). More than a decade ago, Pawle and Cooper (2006) observed that marketing research companies have recently begun offering studies on consumer attitudes. In light of these observations, this study aims to explore and discuss the pleasure design elements of religious products based on a case study of koema, a common and popular type of religious product in Japan. The objectives are to explore how the concept of pleasure design factors is utilized to incorporate religious elements into related product design, and to study the significance of doing so. The findings can be used as a reference for stakeholders, and facilitate the achievement of a fortified image of religions through enriched religious and cultural product design. The establishment of pleasure design factors that can be adapted specifically for the design of such products will offer important information and pointers for product designers.

2. LITERATURE REVIEW

2.1 The koemas of Japanese shrines

“Ema,” the generic Japanese word for “votive tablet,” literally means “horse pictures,” which the earliest, eighth-century tablets ostensibly were. The term itself is said to have first appeared in an early eleventh-century text (Ishiko, 1974; Robertson, 2008). Emas have been offered by every sort of people for centuries. Large and small emas have been collected and are displayed

privately or in museums as artifacts of cultural value and as representations of an authentic living history (Robertson, 1994, 1997; Robertson, 2008). Ema consists of two types: smaller-sized emas are called “koema” and larger-sized emas are called “ōema.” Koemas, approximately measured at 10 cm by 15 cm and between 5 mm and 1 cm thick, could be easily hung up on the wooden sanctuaries of shrines or at designated spots on the precincts (Iwai, 1974; Yasui, 2017). In the Bunka and Bunsei eras (1804-1830) of the Edo period, professional koema artists would make an appearance, and commoners would ask them to depict all manner of wishes on the on the koemas. The custom of offering koema continues today, with the koema depicting prayers for success in life, the taking of entrance exams, or the matching or separation of couples; and for good health, recovery from diseases, or safe childbirth. In the seventeenth-century, votive motifs and themes were as numerous as the number of supplicants, and continue to be common today. (Yasui, 2017; Robertson, 2008).

Koemas are variously decorated with gold and silver lacquer, colorful paints, ceramic figures, fabrics, beaten copper, real objects, relief carvings, and combinations thereof. Although rectangular and pentagonal emas continue to be the most prevalent, some of the more novel shapes that have been invented include fox faces, torii, and wreath-like images. Koemas have long been produced and sold in great quantities by specialty artisans and itinerant peddlers. Koemas are part of a popular genre of illustrated vernacular texts or petitions that are written, read, and reacted to. Koemas are available at shrines and temples, where they have been sold along with other votive paraphernalia (Robertson, 2008). As koemas are circulated in Japan and are related to people's beliefs, their artistic and design elements are worth exploring and can be used as a reference for the design of other votive paraphernalia (religious products).

2.2 Pleasure design

Over the past ten years or so, numerous methods have been proposed to assess the emotional design of products. For example, Green and Jordan (2003) proposed that products should be made to satisfy four types of human pleasure (i.e., ideo-pleasure, socio-pleasure, physio-pleasure, and psycho-pleasure). Product design has been divided into the following dimensions: “functional,” “reliable,” “usable,” “convenient,” “pleasurable,” and “meaningful.” The dimensions of “pleasurable” and “meaningful,” in particular, correspond with the stage of self-actualization in the hierarchy of needs developed by Maslow (Anderson, 2011).

Consumer needs for products have been divided into three categories: holistic attributes, functional design, and styling design. Among these, holistic attributes and styling design are associated with the feelings and emotions of consumers. Good product design ensures a balance between beauty and utility, while the emotional design of a product can be assessed in terms of pleasure, utility, aesthetics, attractiveness, and beauty. The aesthetics of a product prompt

consumers to understand their perceptions of the product and imagine using the product. Therefore, the relationship between the aesthetics and utility of a product can also be evaluated on the basis of the product's utilitarianism (or utility), hedonism (or stimulation and identification), goodness (or satisfaction), and beauty (Khalid and Helander, 2004; Norman, 2003; Hassenzahl, 2004).

McCarthy and Wright (2004) constructed a model of emotion to show how emotions play a part in the consumer's experience of a product or service. This model consists of the overall experience, senses, emotions, wider socio-cultural context, and immediate venue of the usage. Moreover, Yen, Lin, & Lin (2016) developed a model for measuring qualia, arguing that a consumer's emotions about a product should be explicated on the basis of the product's appeal, aesthetics, creativity, sophistication, and mechanics. Jagtap (2017) designed a measuring scale for the attributes or emotions elicited from the visual appearance of a product, stressing the role of visual appearance in identifying consumer responses to a product and in the commercial success of the product. Jagtap noted that specific attributes and emotions elicited by the visual appearance of a product may help designers in the design process.





Table 1: Pleasure design assessment model






Author	Concept	Measuring factors
Green & Jordan (2003)	Pleasure design	Physio-pleasure, socio-pleasure, psycho-pleasure, ideo-pleasure
Demirbilek & Sener (2003)	Emotional response systems or affect programs	Senses, fun, cuteness, familiarity, color, metonymy: sense and function
D.A. Norman (2003)	Emotional design factor	Visceral, behavioral, and reflective
McCarthy and Wright (2004)	Lived and felt experiences	Overall experience, senses, emotions, a wide range of social and cultural environments, and instant usage scenarios
Anderson (2011)	Getting from task to experiences	Functional, reliable, usable, convenient, pleasurable, and meaningful


3. METHODOLOGY

The present author conducted a case study on Japanese koemas by directly measuring the impact of a person's psychological and emotional response to a product's pleasure design and functional requirements (usability, availability, practical functionality, etc.) on his or her product preference. Details on the experimental objects are shown in Table 2.

Table 2: Experimental objects

Code	Image	Location / Shrine	Theme	Meaning
K1		Yasaka Shrine, Kyoto	Koema of the Gion Festival	There are many Yasaka Shrines in Kyoto, Gion's Yasaka Shrine is the headquarters of Kyoto. Because it is located in Gion, it is also called the Gion Shrine. The Gion Festival is one of the largest festivals in Japan and the Gion Shrine is one of the most famous shrines in Kyoto. Here is the starting point of the annual Gion Festival. Thus, gorgeous Gion Festival koemas are sold here.
K2		Beauty Shrine (Located in Yasaka Shrine, Kyoto)	God of beauty of koema	There are many Yasaka Shrines in Kyoto, Gion's Yasaka Shrine is the headquarters of Kyoto. Because it is located in Gion, it is also called the Gion Shrine. The Gion Festival is one of the largest festivals in Japan and the Gion Shrine is one of the most famous shrines in Kyoto. The Beauty Shrine enshrines Japan's god of beauty. Most women can come here to pray for beauty for herself.
K3		Fushimi Inari Shrine, Kyoto	Fox koema	The Fushimi Inari Shrine is primarily headed by Inari God, who commands food. He has been the god of agriculture and commerce since ancient times. The fox is the messenger of Inari God, and the shrine is where you can see many foxes, bite into different objects, or strike different poses.
K4		Fushimi Inari Shrine, Kyoto	Torii koema	The Fushimi Inari Shrine is primarily headed by Inari God, who commands food. He has been the god of agriculture and commerce since ancient times. This is one of the Fushimi Inari Shrine's koemas, with the famous vermilion Torii as its shape.

K5		Hirano Shrine, Kyoto	Cherry blossom koema	The Hirano Shrine was established in 1624 AD, and was built without nails. It is an important Japanese cultural property. Every year, on April 10 th , the Hirano Shrine holds sakura offerings as sacrifices to God. One of the koemas of this shrine has a sakura shape.
K6		Luyuan Temple (Golden Pavilion Temple)	The wish for accomplishments koema	The Luyuan Temple is also called the Golden Pavilion Temple because the external walls of the Temple of Relic are decorated with gold foil. One of the koemas of this shrine is related to the wish for accomplishments.
K7		Luyuan Temple (Golden Pavilion Temple)	Cat-patterned koema	The Luyuan Temple is also called the Golden Pavilion Temple because the external walls of the Temple of Relic are decorated with gold foil. One of the koemas of the shrine has a cat pattern.
K8		Kitano Tenmangu Shrine, Kyoto	Cow god-patterned koema	The main sacrifice in the Kitano Tenmangu Shrine is for the god of learning, Sugawara no Michizane. Sugawara no was truly an outstanding scholar and poet who had a good reputation in the private sector. There must be cattle in the Kitano Tenmangu Shrine, as they represent wisdom. The most classic koema is the Cow god-patterned koema.
K9		Kataoka Shrine (Located in the Kamigamo-jinja Shrine, Kyoto)	Koema of fate	The Kamigamo-jinja Shrine is a World Cultural Heritage Site. The Kageoka Shrine is in the Kamigamo-jinja Shrine where it is widely known as the "Connection Shrine." The shape of this koema comes from the shape of sunflower leaves, which resembles a heart shape.

K10		Kamigamo-jinja Shrine, Kyoto	Koema of the year of the rooster	The Kamigamo-jinja Shrine is a World Cultural Heritage Site. One of the koemas of this shrine is related to the year of the rooster.
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3.1 Instrument

A scale was created on the basis of a literature review and data analysis to measure the effects of the different criteria of a product's pleasure design and functional requirements on a consumer's product preference (Table 3). The scale comprises of 16 items across five dimensions.

Table 3: Pleasure design effect scale for religious products

Dimension		Item
Part 1		
Pleasure Design	physio-pleasure	PP1. I think this work had beautiful graphic design
		PP2. I think this work had a beautiful modeling design
		PP3. I think this work's color was well applied
	socio-pleasure	SP1. I think I will feel different from others through this work.
		SP2. I think I will become more popular through this work.
		SP3. I think I will be comfortable with interacting with people through this work.
	psycho-pleasure	PsP1. I think I will experience some peace of mind through this work.
		PsP2. I think I will feel very happy through this work.
		PsP3. I think I will find fun through this work.
	ideo-pleasure	IP1. I think my personal image will be enhanced through this work
		IP2. I think I will be more confident through this work.
		IP3. I think I can highlight my taste through this work.
Product Preference		P. I like this koema.
Part 2		
Functional Requirements		F1. Do you think the practical functionality (availability) of religious products is important?
		F2. Do you think the incidental practical functionality (usability) of religious products is needed?
		F3. Are you interested in the incidental practical functionality (usability) of religious products?

3.2 Experimental design

A hundred and seventy-nine university students with a basic understanding of design were recruited; 32 were men and 147 were women. All participants were aged 18–22 years. In total, 174 valid responses were returned. The 16 items of the measurement scale were rated on a 7-point Likert scale, in which 1 point indicated that the sample did not have emotional appeal or did not elicit good feelings, 4 indicated that the sample had moderate emotional appeal or elicited fairly comfortable feelings, and 7 indicated that the sample possessed strong emotional appeal, looked extremely good, or elicited extremely good feelings.

4. RESULTS AND DISCUSSION

4.1 Reliability and factor loadings

The attribute assessment dimensions of the pleasure design questionnaire were physio-pleasure (PP1-3), socio-pleasure (SP1-3), psycho-pleasure (PsP1-3), and ideo-pleasure (IP1-3). Each dimension and the overall scale achieved a substantial interrater reliability of .80 ($p < .001$), and the matrix of the factor loadings was greater than .85. The dimension of Functional Requirements, which was added for research purposes, was lower in factor loadings, but it also met the criteria. Details are shown in Table 4.

Table 4: The questionnaire's reliability and validity (N=174)

	Constructs	Code	Cronbach's α	Factor	Variance explained
Pleasure Design	Physio-pleasure	PP1.	.949	.960	91.585
		PP2.		.941	
		PP3.		.970	
	Socio-pleasure	SP1.	.964	.946	93.277
		SP2.		.983	
		SP3.		.968	
	Psycho-pleasure	PsP1.	.958	.943	92.316
		PsP2.		.980	
		PsP3.		.960	
	Ideo-pleasure	IP1.	.945	.979	90.319
		IP2.		.951	
		IP3.		.920	
Functional Requirements		F1	.779	.826	69.453
		F2		.878	
		F3		.794	

4.2 Correlation coefficient analysis

A correlation coefficient analysis was conducted. The Pearson product–moment correlation coefficients were computed to assess the relationship between each of the networks and variables (N= 174 for all tests; see Table 5).

Table 5: The questionnaire’s correlation coefficient (N=174)

	Mean	SD	Physio- pleasure	Socio- pleasure	Psycho- pleasure	Ideo- pleasure	Function	Product preference
Physio- pleasure	4.997	.762	1					
Socio- pleasure	4.326	.853	.643**	1				
Psycho- pleasure	4.448	.881	.699**	.913**	1			
Ideo-pleasure	4.308	.935	.670**	.922**	.916**	1		
Functional requirements	5.126	1.18	.380**	.326**	.363**	.306**	1	
Product preference	5.258	.857	.825**	.514**	.578**	.533**	.335**	1

**Level of significance is 0.01 (two-tailed), significantly related.

4.3 Regression analysis of the relationship between the components of pleasure design and product preference

Through regression analysis, we examined the effects of pleasure design and functional requirements on product preference. The absolute term of the dependent variable, Product preference, was 0.620. The significance was $0.016 < \alpha = 0.05$, thereby rejecting the null hypothesis of zero. As the constant term of the regression equation should not be zero, it cannot be omitted. For the four independent variables, the significance of Physio-pleasure was $0.000 < \alpha = 0.001$, thereby rejecting the null hypothesis of zero. The results showed that the relationship between Product preference and Physio-pleasure was positively related, and the more physio-pleasure that the work elicited, the more people liked it. The significances of the three independent variables of Socio-pleasure, Psycho-pleasure, and Ideo-pleasure were all greater than $\alpha = 0.05$, so the null hypothesis of zero could not be rejected. The results showed there was no significant linear relationship between Product preference and these three variables. Therefore, the coefficients of these variables can be excluded from the regression equation. Results of the multiple regression analysis for the entire sample are shown in Table 6. The regression equation is shown below.

Product preference = 0.620 + 0.934 Physio-pleasure

Table 6: Results of the multiple regression analysis for the entire sample (N=174)






Dependent variable	Independent variable	B	SE	β	t
Pleasure Design	Physio-pleasure	.934	.068	.830	13.647***
	Socio-pleasure	-.049	.125	-.049	-.390
	Psycho-pleasure	.133	.121	.137	1.095
	Ideo-pleasure	-.095	.117	-.104	-.814
R= .827 Rsq= .684 F= 91.435 ***					






*p < .05 **P < .01 ***P < .001

4.4 Using product preference to assess the popular products and their attributes

First, all works can be divided into three groups by the hierarchical method, and then averaged by the K-means method. The highest mean was 5.85, and the lowest was 4.51, with an overall average of 5.26 and a standard deviation of 0.43. Table 7 and Figure 1 show the results of the koema assessment by their score groups and the mean of their preference scores. The results showed that the works with the highest scores were K1, K4, K6, K7 and K9, and that the high-scoring group contained the highest number of works. This outcome tells us that the works within the high-scoring group display features that include but are not limited to design variety, beautiful graphic design, great degree of style, cultural significance, and highly contextualized images.

Table 7: Koema score groups and preference means

low scores group		middle scores group		
K5	K8	K2	K3	K10
				
Mean: 4.6092	Mean: 4.5057	Mean: 5.1839	Mean: 5.2299	Mean: 5.1667
highest scores group				
K1	K4	K6	K7	K9

				
Mean: 5.6264	Mean: 5.8448	Mean: 5.4023	Mean: 5.3103	Mean: 5.6954

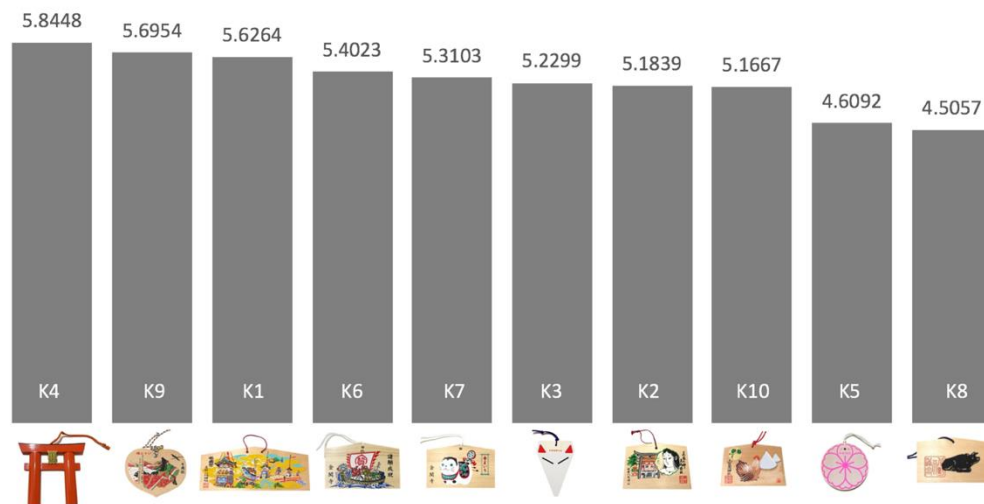


Fig. 1: Koema preference means

5. CONCLUSION

Using past research as the basis, this study expands on past findings to offer new research perspectives. Results from the questionnaires designed and administered in this study were compiled and assessed. The following conclusions are made.

1. The reliability, validity, and correlation analyses all generated results that met the standard criteria, thus suggesting that the pleasure design effect scale for religious products is suitable for use in design teaching and as reference material for religious product design.
2. The regression analysis results indicated that religious product design should place more emphasis on beautiful graphic and model design, depart from the typical hexagonal and rectangular shapes, and apply a better color palette. On the whole, more attention should be paid to the attributes that arouse physio-pleasure. This finding is aligned with the findings of Norman (2004), which stated that products with pleasure design attributes can arouse positive emotions because human brains are naturally attracted to aesthetically pleasing and pleasurable things.

3. As shown by the cluster analysis results, some of the popular works were the Torii koema, the koema of the Gion Festival, the koema of fate, and the wish for accomplishments koema. The Torii koema is a mini replica of an actual Torii, which makes it very charming. The koema of the Gion Festival is popular for the detailed depiction of its contextual festival. The koema of fate depicts a woman with lyrics depicting her feelings of love. The wish for accomplishments koema depicts a boat full of treasures, representing one's wish for accomplishments. These popular works share the commonalities of offering design variety, a beautiful graphic design, a great degree of style, cultural significance, and highly contextualized images.

The results of this study showed that product preference is related to the emotional and physio-pleasure attributes in religious product design, and that preference is stronger if practical functionality coexists with these attributes. Overall, the research results echo the findings of McLoone (2012), which stated that a successful product design satisfies or even exceeds the emotional needs of consumers, and surpasses practicality and quality. The incorporation of the "emotion" element into product design demonstrates the affects and emotions in user experience. Veryzer and Hutchinson (1998), Batra, Seifert, and Brei (2015), and Yen (2016) all asserted that aesthetics is a fundamental aspect of a product's form and should be linked to emotions, because the cognitive assessment of a product is a part of the emotion aroused by aesthetics. Therefore, this study recommends that religious product design should be emotion-oriented, because the pleasure attribute is a kind of temperament that a product may show, and enables consumers to comprehend and feel. Moreover, the pursuit of beauty is a modern trend. Thus, the combination of beauty and the appropriate incorporation of practical functions may enhance the design of religious products, and satisfy the broader competitive market.

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REFERENCES

- Anderson, S. P. (2011). *Seductive interaction design: Creating playful, fun, and effective user experiences*. New York, NY: Pearson Education.
- Batra, R., Seifert, C., & Brei, D. (Eds.). (2015). *The psychology of design: Creating consumer appeal*. Routledge.
- Demirbilek, O., & Sener, B. (2003). Product design, semantics and emotional response. *Ergonomics*, 46(13-14), 1346-1360.

- Green, W. S., & Jordan, P. W. (Eds.). (2003). *Pleasure with products: Beyond usability*. CRC Press.
- Hassenzahl, M. (2004). The interplay of beauty, goodness, and usability in interactive products. *Human-Computer Interaction*, 19(4), 319-349.
- Ishiko Junzō (1974). *Koema zufu: Hōjikomerareta minshū no inori*. Tokyo: Haga Shoten. First published 1972.
- Iwai, H. (1974). *Ema*. Tokyo: Hosei University Press.
- Jagtap, S. (2017, January). Attributes and Emotions in Product Form Design: A Survey of Professional Industrial Designers. In *International Conference on Research into Design* (pp. 705-714). Springer, Singapore.
- Khalid, H. M., & Helander, M. G. (2004). A framework for affective customer needs in product design. *Theoretical Issues in Ergonomics Science*, 5(1), 27-42.
- McCarthy, J., & Wright, P. (2004). Technology as experience. *interactions*, 11(5), 42-43.
- McLoone, H., Jacobson, M., Goonetilleke, R. S., Kleiss, J., Liu, Y., & Schütte, S. (2012, September). Product Design and Emotion: Frameworks, Methods, and Case Studies. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 56, No. 1, pp. 1940-1941). SAGE Publications.
- Norman, D. A. (2003). Measuring emotion. *The Design Journal*, 6(2).
- Norman, D. A. (2004). *Emotional Design: Why We Love (or Hate) Everyday Things*. New York, NY: Basic Books.
- Pawle, J., & Cooper, P. (2006). Measuring emotion Lovemarks, the future beyond brands. *Journal of advertising research*, 46(1), 38-48.
- Robertson, J. (2008). Ema-gined community: votive tablets (ema) and strategic ambivalence in wartime Japan. *Asian ethnology*, 67(1), 43-78.
- Robertson, J (1997). Empire of nostalgia: Rethinking “internationalization” in Japan today. *Theory, Culture and Society* 14(4): 97–122.
- Robertson, J (1994). *Native and Newcomer: Making and Remaking a Japanese City*. Berkeley: University of California Press. First published 1991.

- Veryzer Jr, R. W., & Hutchinson, J. W. (1998). The influence of unity and prototypicality on aesthetic responses to new product designs. *Journal of consumer research*, 24(4), 374-394.
- Kitiarsa, P (2012). Mediums, Monks, and Amulets. England: University of Washington Press.
- Watts, J., & Loy, D. (1998). The religion of consumption: A Buddhist perspective. *Development-Journal of the Society for International Development-English Edition*, 1, 61-66.
- Yasui, M. (2017). Depictions and Modelings of the Body Seen in Japanese Folk Religion: Connections to Yokai Images. *Advances in Anthropology*, 7, 79-93.
- Yen, H. Y., Lin, P. H., & Lin, R. (2015). The effect of product qualia factors on brand image-using brand love as the mediator. *Bulletin of Japanese Society for the Science of Design*, 62(3), 67-76.
- Yen, H. Y., Lin, P. H., & Lin, R. (2016). Designing “friendship” into emotional branding and design. *Advances in business and management*, 85.