

# An Analysis on the Factors for Building the Style Design Competitiveness of the Domestic Automotive Industry

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## Abstract

**Background** While the style design competitiveness of the Korean automotive industry has grown rapidly, little new has been found in scholarly probes due to the saturation of past studies on the industry aspect, which does not have a significant relationship to style design.

**Methods** This research aims to analyze the factors of the style design competitiveness of the Korean automotive industry during past decades and the evolution of the characteristics in style design, from a development perspective.

**Results** The key elements of the style design competitiveness of the Korean automotive industry were found to have been influenced by Italia and other European design operations rather than from Japanese ones.

**Conclusions** The style design competitiveness of the Korean automotive-industry originated from style oriented developing characteristics for export and domestic markets; however, it is now one of the most exploitable and reliable resources to sustain industry competitiveness.

**Keywords** Korean Automotive Industry, Style Design, Distinctive Character, Iconic Design, Design Attribute

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## 1. Introduction

Began with the first originally built vehicle “Si-Bal” in 1955, the automotive industry of Korea has been grown up as a distinct Asian latecomer in the global automotive industry over the 60 years (KAMA, 2005), and has achieved the most outstanding growth in global perspective, especially throughout the past decades. In the history of the international automotive industry, the Korean’s noticeable performance and steady growth deserves close scholarly investigation to understand competence of artistic style design characteristics.

One of the most frequently asked question of the author from foreign academia is what the key issue for the style design competitiveness and capability of the Korean automotive industry nowadays, however little new has been found in scholarly probes due to the saturation of the past studies regarding vehicle production technology, which has little relationship to style designs.

The key of this research is to note the factors of Korean auto-industry’s style design competitiveness from an unprecedented viewpoint, i.e. analyzing characteristics in developing cases. The significance for this approach is twofold.

Firstly, this paper pursues an insight that explains the automotive style design competitiveness of the Korean automotive industry as a latecomer from different insights.

Secondly, style design has been constantly thought one of the most strategic resources since the Korean original model’s developing began, and this should be verified from original models of the Korean auto-makers developing perspectives.

For these goals, this paper analyzes selected cases whose references could be found in Korean automotive industry from 1970s to 2000s. Hence, one of the initiatives of this paper is to scrutinize context of Korean auto-industry’s style design competitiveness by reviewing developing cases.

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## 2. Designs in Automotive Industry

### 2. 1. Design and Style

The concept of “design” in this study deals with mainly automotive style. It is an industrial conception that determines the visual forms, shapes, silhouettes, contours, and textures as well as colors of both exterior and interior parts, constituting an automobile as a product.

The initial attempt for automotive style design was made by Harley Earl who were appointed as a head of Color & Trim Section of General Motors in 1937 for the first time, since then, style character became essential in terms of propelling new product development and sales promotion. The characteristics of GM design had been kept to todays through the era of Charles Jordan who led the renaissance of GM Design in 1960s (<http://www.nytimes.com/2010/12/14/business/14jordan.html>).

During 1980s, GM tried to develop some Cadillac models with cooperation by Pininfarina, one of the Italian carrozzeria that has specialty in style design, and the project called as

'Italian Connection' internally (Georgano, 1992). Nevertheless, the style design of today is not same as it was until 1960s. Alongside technical competence in engineering to package both functional and figural components, car design requires constant aesthetic evolution that maintains producer's particular philosophy, emotion and spirit, enmeshed with a product (Calabrese 2011: Verganti 2009).

## 2. 2. Style Design

Automotive design, especially car design itself has not been viewed as an independent, separable, and a strategically processed within production management. In addition, car design deals an intangible and emotional subject. The former design director of GM Chuck Jordan brought forward the view as a style and indicated opinion about style, as "There are no rules or steps to success. It's a matter of opinion." (<http://www.nytimes.com/2010/12/14/business/14jordan.html>).

In term of style design, Jordan's focus was fixed upon a decorative style-oriented standpoint with its attribute, and his design term was involved with the realm of configurative ones such as 'Tail fin style' in 1950s. Jordan's design concerns the visual attributes more than other engineering factors. With observing, the point of view for the lateral body proportions for better stance for both in elegant style and enhanced performance.

As aptitude of a well-elaborated car through the advance of proportion-based, view of the design development and again, the conceptual foundation in the theory of the proportion is rooted on the automobile body design among engineering elements (Koo, 2009).

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## 3. Korean Cases

### 3. 1. Design Identity

The style design in theoretical perspectives involves five characteristics, viz. problem solution, creation, systemization, coordination, and cultural contribution (op. cit. 2011). The first three characteristics can tied with concept of product development as creating, programming, and then delivering specific design information. Observing another point of view through in term of "media" i.e. planned software-oriented activities: and can couple with view of corporate foundation as organizational capabilities for emotional factors (Koo, 2007).

In addition, another term used in this paper 'sculptured style' is not a designated terminology, but among some academia, it is being used for pointing recent style characteristics in body style of Korean automobiles by numbers of scholarly statements. The term of 'sculpted style' notes a sort of body style with strong shape treatments to emphasize character which can be found on recently developed automobiles by Korean brands.

One of the clearest sources for creating design identity on automobiles is style design, since visual design defines their images as well as brands: along with technological specifications that fulfil technical demand and expectation, every visual image of style also constitutes

the product-consumer interface with particular iconic image. Therefore, it is inevitable to research the field of car design in consideration of analysis of semantic value in the automotive industry (Choi, 2012).

### **3. 2. Italian Influences**

The firstly systematically styled and designed Korean original models were Hyundai Pony coupe and fastback sedan, made their debut at Torino Motor Show in October 1974. Both were yet merely a handcrafted prototype, demonstrating an avant-garde geometric shaped style rather than impressing the audience with the engineering performance from technological proficiency in high degree completion (Chung, 2000; Hyundai Motor Company, 1987).

The launch of the own model led to the first export to Ecuador the Korean-made passenger cars in July 1976, with 5 units of Pony along with 1 unit of Hyundai Bus. Soon, the export to South America followed by the market penetration in Middle East such as Saudi Arabia (Hyundai Motor Company, 1987, 1997).

Mass production has to be absolute to gain scale of economy, yet the domestic Korean market was too small at the time (Choo&Cho, 1998). Therefore, the Chung brothers' conclusion was clear: their automotive business must focus upon the overseas market from the beginning (Chung 2000; Chung 2014). Their strategy of launching "globally appealing models" induced Hyundai's style-driven concept (Choi, 2013).

The design development via avant-garde style engendered Ju-Young's choice of Italian design firms. Then Se-Young's restless trials on contacting the best carrozzeria in Northern Italy immediately followed, and his final choice was Ital Design in Moncalieri. Nonetheless, in realistic consideration of their absolute technological backwardness in the very early stage of manufacturing, the available resource for quick appealing in global perspective was style competitiveness (Chung, 2000). The design driven concept in the product development was not an option: it was an ineluctable choice for their visionary growth strategy as a latecomer (Choi, 2013).

### **3. 3. Other European Influences**

By the end of 1990s, all Korean automotive makers such as Kia Motors, Daewoo Motor, and Ssangyong Motor had been to develop original models with original body Style done by employing Italian automotive design firms such as Ital Design, Bertone, IDEA and Pininfarina as well.

There were other cases of European design firms involved in 1990s such as IAD (International Automotive Design) of England either. The IAD was one of British automotive engineering service companies with basic style capabilities, but later involved much part of Korean automakers' developing activities.

The IAD had two operations in Worthing England and Long Beach California USA at the time. Both operations had relationships to Korean automotive makers for developing new models during the decade. However, the IAD in England was purchased by Daewoo Motors in later 1990s, and had been operated as “Daewoo Worthing Technical Centre” to develop new models to export to European markets, later the location was sold in 2001 (<http://www.am-online.com/news/2001/4/18/daewoo-sells-worthing-technical-centre/1450>).

Not only the developing firm, but also design school such as Royale College of Art in England, had relationship in developing new vehicle body style to a Korean automaker. SsangYong Motor. The company developed several style design for sedan and SUVs with RCA, including their original model SUV Musso.

### **3. 4. Least Japanese Influences**

Some other cases of developments by Japanese firms such as Design Club International, Daiich Kogyo, and MIM also found from interviews of the author with several former Korean and Japanese automotive designers. Nevertheless, most of the developing cases with the foreign design companies gathered by unofficial references for the contents were still the part of trade secrets.

Among the cases, most of Japanese designs developing firms provided basic style themes and then modified by Korean automakers in-house design teams discovered. Hence the influences from Japanese design firms to the style characteristics of Korean automakers were not as much as European at the time, which became the reasons of the Korean automotive industry nowadays have much different style approach to Japanese automotive industry.

### **3. 5. Style Demand**

The frontal part of the body have strong and featured characteristics for both of other driver or pedestrians whom to behold. In the other hand, balanced and horizontal yet symmetric rear view of the car with logotypes indicating brand name and specific information of the car settled as basic style (Koo, op.cit.). This kind of design of the Korean auto-brands from the year 2009 bodywork settled with emotional differences.

These changes looked similar to the situation of American car market in 1950s for the flamboyant styled cars were the most important advantageous element among attributes. The tail-fin style of the times were the most popular style character which worked as a sales point were banned after the oil shocks for their inefficiency and kitsch-like decorative treatments (Maltby, 1994). Later in 1960s, the body proportion of an automobile treated as a fundamental factor works as different style basics.

Even though the importance of the key elements of style drive were treated as less important element and proportional character is resided in the appealing body image as a latecomer, or put it differently, as “a chaser with strong character”.

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## 4. Analysis

### 4. 1. Style Oriented Approaches

During the process of developing original models of Korean automakers, style design was dealt with as the most important step among all developing processes similar to American automobile makers developing as did in 1950s (Erloff & Marshall, 2008). And the prominence in style design was the result of the developing activities in which commonly dealt with style improvement through engineering and managerial betterment either for product and production, and accelerated by the volatile market demand in the swift economic growth of Korea with the globalization of automotive business.

The developing focus mainly placed upon the domestic demand with body style in the early phase of the developing, but the following decades after the 1990s, it broadened the sight of sculptured style development to more international perspective with increasing demand as an export especially to North America oriented industry.

In most cases, the conceptual progresses of style made first, and then the follow-ups by the next design further (Marc, 2013). To sustain this ascending spiral of capability development in speed, the chief designer was in strong demand for performing decisive leadership throughout product development; and the leadership required careful managerial coordination to minimize any discordance between the two specialties (Choi, 2013).

### 4. 2. Style Design Competitiveness

The conceptual foundation of Korean style driven strategy formed through developing histories with those of foreign design firms from the initial stage of growth. The Korean strategic priority in style as observed so far, the international race of style development were witnessed from the initial stage of their original models. It could be confirmed that Korean automotive industry's perception on the significance of the style-driven product concept was key factor.

The other mechanism of producing style design competitiveness enmeshed with companies evolving organizational dynamics in coordinating available internal and external resources simultaneously. Began with Peter Schreyer, who was former VW designer, many foreign designers have been hired to domestic makers to enhance style credibility since the year 2006.

The most noteworthy of this analysis is that the style design played a leading role in Korean automakers in vehicle development constantly. As discussed above, Korean automotive industry's style character in design has not acquired all of sudden by simply employing foreign designers.

Most of style design necessity of Korean makers was for overseas market to export than domestic market; however, all Korean automakers had engaged severe competition in

domestic market until the big deal took place in 1998. That was another reason to concentrate to develop new style designs for domestic and exporting purpose, also were the main reason to develop global standard body styles with artistic characters by employing European design firms influenced to Korean automaker's design originality.

As the result of developing distinctive style characteristics discussed so far, body shape treatment changed for better appealing, and the basic design concept or principle changed (Koo, 2009).

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## 5. Conclusion

### 5. 1. Design Competitiveness

As observed and analyzed so far, strategic priority of Korean auto-industry in style design development were witnessed from the initial stage of the first original models both of the Si-Bal and Pony even though the former one was not developed systematically. It could confirm that Korean automotive industry's perception on the significance of the style-driven product concept was key factor.

The development was influenced mainly from European design development and has been done with focusing on both domestic demands and international perspective because of insufficient volume of domestic market scale. In this concluding section, the following three contexts summed up to upheld the researcher's viewpoint.

1) Korean automotive industry's style character in design has not acquired all of sudden and Korean strategic priority in style for the international race witnessed from the initial stage of their original models. Hence, Italian based European firm's development processes have influenced Korean auto-industry's perception on significance of the style-driven product concept.

The developing focused on the domestic demand in style, but the following decades, it broadened the sight of design, including style and design development in international perspectives to meet exporting demand.

2) As the result of developing original models with strong style characteristics, body shape treatment had changed for better appealing, and the basic design concept or principle changed for each visual views. The frontal part of the body should have strong and vertical tendency characteristics to be appealed to both of the other driver or pedestrians.

However, the rear view of the car changed to be balanced and horizontal yet symmetric. The difference of the concept between front and rear style had developed to be more featured and sculptured style characteristics in the body designs of recent Korean auto-brands.

3) The dimension of the body of passenger car of Korea had changed to be wider as much as for the U.S. market oriented body, which has different body width to the Japanese cars over 1,700mm for exporting to over sea markets.

Though this might be dealt as minor factor for style characters, the result the dimension

difference is significant. Different to Japanese cars, most of Korean cars have ample interior space to accommodate all family members. The advantage in interior space of Korean cars is now becoming a distinctive structural difference.

## 5. 2. Future Implications

In wrapping up this research, some additional questions for the future implications should be raised: firstly, what this paper has achieved regarding scholarly pursuit of new knowledge about style design competitiveness of Korean automotive industry. Secondly, on the verge of the upcoming epoch of autonomous cars, or car sharing service with escalating digital technology and sharing economy, would the new type of vehicle design changing strategy of Korean auto-brands significantly.

The contribution of this paper would be twofold: the first concerns provision of analytical approach to Korean automotive industry's style design competency through standpoint of design oriented development, this has put a new idea of the style character as a sculptured style development.

The other is to remind the global automotive industry with the style i.e. design oriented with creative capabilities. However, the style design developing of the period that this paper has examined briefly, i.e. 1970s - 1990s, provide only basic insight for the question on Korean current style competitiveness.

To answer more precisely about style design with sculptured characteristics of the current design competitiveness of Korean automotive industry, another investigation on style design change during the 2000~ 2017 will be the researcher's later research task.

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