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An Analysis on Game Character Product Design Preferences among Kidults for Extending Mobile Game Lifespans

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모바일 게임의 수명 연장을 위한 키덜트의 게임 캐릭터 상품 디자인 선호도에 대한 분석

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ABSTRACT

Over the recent years, there has been a sudden surge in interest over character-related products among mobile game developers in South Korea as a business strategy to extend mobile game lifespans. However, even with the majority of mobile game players aging around 18~35 and higher, there has been a lack of study regarding design preferences and consumption tendencies of adult players—or *kidults*—when it comes to character-related products. In this study, three distinctive decision patterns among kidults were identified using an online Q-Sort method: (a) Character Oriented, (b) Item Oriented, and (c) Character-item Oriented. The similarities and differences of these three types are further analyzed to provide insight into important factors that play decisive roles in purchasing decisions made by kidults. The results from this study can aid mobile game developers in establishing reference points for future character business directions.

Keywords : Mobile Game, Kidult, Character Product

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1. Introduction

Compared to other online, PC, or video games, mobile games have an extremely short lifespan[1]. With the expected lifespan of mobile games to be around 8.2 months[1], a new successful strategy in prolonging this cycle has become an important task for the market and its developers. In recent years, producing character products that utilize mobile game IPs(intellectual properties) has risen as one of the possible solutions for this problem in the South Korean mobile game market.

Major mobile game companies such as Netmarble have clearly stated that "securing a competitive edge over one's IP has become more important than ever"[2], and announced their goal to create "a Global IP Specialty Studio"[2][3]. The company has also revealed its aims to broaden its character product line across various categories such as books, puzzles, and accessories in an attempt to "become a more 'familiar brand' to users," explaining their use of character products as a form of "brand management strategy"[2]. This implies that current companies view character products as a plausible business strategy worth investing in. Therefore, in order to ensure a successful outcome, it is necessary to analyze consumer wants and needs regarding character products and their designs—including both formal and functional aspects.

However, when it comes to mobile game related character products, there are not many studies that attempt to analyze basic design preferences and the following consumption tendencies of targeted players. To successfully promote and appeal products to potential buyers, it is important to have a basic understanding of what consumers are looking for. The following study highlights the importance of the *adult* player/buyer in the current mobile game market, and focuses on analyzing their specific preferences and tendencies in buying character-related products. As a result, the study attempts to provide reference points for mobile game developers in ideating character product directions.

2. Literature Study

2.1 Kidult Culture as a Postmodern Phenomenon

The word *kidult* is a compound combining the words 'kid' and 'adult.' It refers to adults who are seen to have interests *traditionally* viewed as suitable for children. Kidults and kidult culture are easily observed in today's mass media and marketing culture. No longer are superhero movies entertainment only for teenagers, figures toys for underage children, or games a pastime for the youth; today's mainstream adults not only share the above interests but also actively participate and invest in such activities

Jacapo Bernardini interprets this increase in kidult culture as a global postmodern phenomenon. He highlights the fact that the postmodern generation, or digital generation, of the 1970s and 1980s has grown up and matured with the video game market together. Furthermore, not only did this generation experience the game industry

1) Mobile games have a development period of 8 months and a lifespan of 8.2 months while online games have 21.9 and 51.2 months, PC games 13.7 and 30.9 months, and video games 11.5 and 13.3 months[1]. Mobile games also show the shortest play duration per game with players enjoying one mobile game for 14.7 weeks on average while online games average 10.4 months, package games 7 months, video games 7.9 months, and portable console games 7.1 months[5].

2) The specific studio mentioned in the article refers to Netmarble Monster, one of Netmarble Company's game studios.

evolve, but it also experienced extensive growth in mass media and technologies such as televisions, videos, movies, computers and the internet. He argues that this shift in media culture lead to a natural affinity toward or propensity for what is now labeled kidult culture[4].

Living in a media immersed environment, no person or society is free from the effects and changes that media bring upon them. Consequently, as part of the inevitable change in media environments and their effects, the kidult phenomenon cannot be labeled an isolated occurrence or a peripheral subculture community outside the mainstream market. Rather, it is a world-wide, socio-cultural change in general human behavior and cognition. Hence, one can conclude that any—*if all*—postmodern adult who has had experience of or access to the media mentioned above can possess kidult tendencies in some shape or form. Therefore, a study on kidults and their preferences can provide valuable insights that can be utilized across various markets and applied to any potential adult or soon-to-be-adult consumer.

2.2 Mobile Games and Kidults: Demographics

The mobile game market has risen to take over more than 16.7% of the entire global game market and is still growing at an increasing rate[5]. Especially in South Korea, the mobile game market has grown to become the second largest platform covering more than 32.5% of the country's game market. Furthermore, this share is expected to reach over 50% of the entire market over the next couple of years and exceed the online game share which currently is the largest[6]. Compared to other countries such as North America where video games cover 63.5%, arcade games 18.4%, and mobile games 6.2% of the game market share respectively, the South Korean market share stated above calls for noteworthy attention[5]. In respect to South Korea, understanding the mobile game market is of paramount importance.

One significant factor to point out is the market's demographic. Unlike common belief, the majority of mobile game players are not underage teenagers or children, but they are adults mostly ranging from 19~49 years old. Rather, teenagers from the age of 10~18 are the second smallest(16.3%) user demographic in mobile games, next to adults ranging from 50~59 who are the smallest(14.9%). Players from the age of 19~29 cover 23.0% and 30~39 cover 23.7%, resulting in the largest mobile game user demographic group. It is also the adult player that shows longer continued engagement with a single game title.[3] With the average play duration per mobile game at 14.7 weeks, all adult player groups showed durations longer than the average—with players from the age of 30~39 showing the longest duration of 16.0 weeks, while underage players ranging from 10~18 showed a lower-than-average duration of 10.6 weeks[5].

The increase in adult players among game demographics can be interpreted as a valid example of the previously mentioned postmodern changes in adults and their values. Also, it further emphasizes the need to look into the adult player as part of the *core* target group for mobile games and their related products. Therefore, for mobile game developers to consider the adult player/buyer as an important target for mobile game related

[3] Average play durations per mobile game title are as follows: player age group ranging from 10~18 at 10.6 weeks, 19~29 14.8 weeks, 30~39 16.0 weeks, 40~49 15.9 weeks, 50~59 15.6 weeks.

character products is not only valid but necessary. As a result, understanding and evaluating what adults, or *kidults*, look for in terms of formal and functional design in character-related products is an important area of study.

2.3 The Female Player in Mobile Games

Another significant factor related to mobile games and their demographics is the high percentage of female players. Unlike common belief that games are mostly played by male users, the percentage between male and female mobile game players are nearly equal, with male players taking up 51.6% and female players 48.4%[5]. This percentage difference is significantly less than that of other game genres such as video and PC games. However, due to this general misconception, there has been a lack of study in game related fields regarding the female player compared to the male player.

As the current study focuses on mobile games and their character products, close attention to the female player is highly relevant. If the current study could find significant similarities or differences between the male and female player in character product design preferences, that would provide meaningful results in further understanding female players and their values.

3. Research Method

3.1 Methodology

This study utilizes Q-methodology as its research method. Q-methodology is an analysis method that permits the systematic study of subjectivity and the communicability of subjective perceptions on a particular topic[7].

The methodology requires participants to participate in a sorting process called a Q-sort, which requires participants to sort various "statements" according to one's degree of agreement with each statement. By analyzing the Q-sort data, the method extracts key "factors" that influence individual or group opinions and highlights similarities and differences in sorting patterns among participants. Due to the subjective nature of the study subject, Q-methodology was chosen as the appropriate research method.

3.2 Setup

This study chose character products from the mobile game Cookierun as its concourse[4] for the Q-sort. The game was specifically chosen because of its general public reputation for running a successful character product business and its wide range of products. Limiting the concourse to a single IP was considered to minimize the possibilities of differing aesthetic preferences in character style and design overshadowing fundamental characteristics of the selected products —thereby forcing the participants to focus more on the actual design, purpose, and function of the product itself.

3.3 Procedure

As shown in [Table 1], a total of 37 products sold by Cookierun's developers Devsisters were

[4] Discourse about a specific topic. It is not restricted to words but might include collections of paintings, pieces of art, photographs and even musical selections(Denzine 1998; McKeown, Hinks, Stowell-Smith, Mercer & Foster 1999:255). Statements used in the Q-sort are selected from the concourse[7].

selected as statements for the Q-sort. HtmlQ, a web-based online Q-sort tool developed by aproxima Gesellschaft für Markt- und Sozialforschung Weimar[8], was modified to accommodate an image-based Q-sort and uploaded to the web for easy access by participants.

Participants over the age of 19 were selected to participate in the online Q-sort. Since the study defines all postmodern adults as having a kidult tendency to some degree, any participant who met the age requirement was allowed to participate. A total of 13 participants participated in the study.

Participants were shown images of different products along with short captions describing each product. Participants were asked to sort and place all of the 37 products according to a preference scale ranging from least preferable(-4) to most preferable(+4). The Q-sort used a force-distribution sort structure designed according to a normal distribution bell curve, which forced participants to place a specific number of statements under each preference scale. Once the Q-sort was complete, participants were asked to answer follow-up questions asking them to explain their reasons behind selecting specific products as most or least preferable.

Submitted data were analyzed using the QUANL software under a varimax rotation with a setting of 4 factors to be extracted.

[Table 1] Statement Images with Descriptions

No	Description	No	Description
1	Face Cushion(34cm)	20	Glass Cup
2	Doll(30cm)	21	Travel Tag
3	Pet Mini Doll(8cm)	22	Badge
4	Figure Collection(±5.5cm)	23	Umbrella
5	Special Collection Figure (15cm)	24	Cell Phone Case
6	File Folder	25	Drawing Linen Cushion
7	Pen	26	Collaboration Shoes/Bags
8	Spring Note	27	Bottle
9	Pocket Note	28	Jelly Soap
10	Masking Tape	29	Blanket
11	Sticky Note	30	Notebook Collection
12	Coin Wallet	31	Illustration Calendar
13	Card Wallet	32	Mini Stamp
14	Pencil Case	33	Travel Sticker
15	T-shirt	34	Page Marker
16	Eco Bag	35	Wappen(Patch Badge)
17	Pouch	36	Halloween Special Sticker Set
18	Slippers	37	Food(Pop-up Shop Macaroon)
19	Mug		

Statement Image

4. Results

A total of 3 factors were extracted from the varimax rotation. Among the 13 participants. Type A(n=5) consisted of a relatively equal ratio of both male and female participants. It also showed a significantly high overall factor weight averaging w=1.3876 compared to the other types. Except for one participant(P5), all male participants fell under this category. However, a female participant(P8) showed the highest factor weight among all other participants in the same group, with a significant factor weight of w=2.1157.

Type B(n=5), consisted of all female participants except one male participant(P5). One female participant(P11, w=1.3023) showed a factor weight of over +1.0000.

Type C(n=3) consisted solely of female participants and had one female participant(P3, w=1.0653) with a factor weight of over +1.0000.

[Table 2] P-sample Factor Matrix

TYPE	P-sample	Sex	Age	Weight
TYPE A (N=5)	8	F	25	2.1157
	7	M	27	1.8362
	10	F	26	1.1001
	6	M	26	0.9810
	4	M	24	0.9048
TYPE B (N=5)	11	F	27	1.3023
	5	M	24	0.8971
	2	F	26	0.7809
	12	F	31	0.6812
	1	F	26	0.6054
TYPE C (N=3)	3	F	24	1.0653
	13	F	25	0.8203
	9	F	34	0.5401

4.1 Type A: Character Oriented

[Table 3] Type A Item Description according to Descending Array of z-scores (top and bottom 9)

	Statement	Z-score
5	Special Collection Figure(15cm)	2.01
1	Face Cushion(34cm)	1.89
2	Doll(30cm)	1.87
4	Figure Collection(±5.5cm)	1.64
3	Pet Mini Doll(8cm)	1.46
26	Collaboration Shoes/Bags	1.16
15	T-shirt	0.85
35	Wappen(Patch Badge)	0.82
19	Mug	0.81
9	Pocket Note	-0.79
8	Spring Note	-0.85
34	Page Marker	-0.99
16	Eco Bag	-1.18
37	Food(Pop-up Shop Macaroon)	-1.19
32	Mini Stamp	-1.28
28	Jelly Soap	-1.38
6	File Folder	-1.41
11	Sticky Note	-1.82

Type A(n=5), Character Oriented, showed high positive z-scores for character products that celebrated the character itself. All figure products(statement 5, 4) had significantly high z-scores of z=2.01 and z=1.87, as well as all doll products(statement 2, 3).

The difference in z-scores between the face cushion(statement 1, z=1.89) and drawing linen cushion(statement 25, z=0.63), shows a characteristic design preference among Type A participants. Although both products are under an identical product category as cushions, Type A participants showed more preference(difference z=1.26) toward the face cushion than linen cushion. While the face cushion takes on a design that mimics and exemplifies the character's actual design features(the face itself), the drawing linen cushion simply prints an image or illustration of

the character over an ordinary cushion. Similar tendencies can also be observed between the collaboration shoes/bags(statement 26) and the eco bags and slippers(statement 16, 18).

Another characteristic includes a preference toward *collectibles* or *novelty* items. Between the two figures(statement 4, 5), the figure with the description of "special collection" had a higher z-score(difference z=0.37) than the other. On the contrary, products with more practical use such as office stationeries(statement 6, 7, 8, 9, 11, 14 etc.) resulted in some of the lowest z-scores. While the above can be interpreted as a general disliking toward office stationeries or daily products, it can also reveal favor toward products or objects that can be *collected*, *preserved*(lasting) and *showcased* rather than be used or carried around.

4.2 Type B: Item Oriented

[Table 4] Type B Item Description according to Descending Array of z-scores (top and bottom 9)

	Statement	Z-score
19	Mug	2.13
29	Blanket	1.91
27	Bottle	1.89
16	Eco Bag	1.63
37	Food(Pop-up Shop Macaroon)	1.55
17	Pouch	1.44
28	Jelly Soap	0.78
9	Pocket Note	0.73
21	Travel Tag	0.53
5	Special Collection Figure(15cm)	-0.82
34	Page Marker	-0.91
35	Wappen(Patch Badge)	-0.92
8	Spring Note	-0.96
36	Halloween Special Sticker Set	-1.20
32	Mini Stamp	-1.27
6	File Folder	-1.46
15	T-shirt	-1.56
14	Pencil Case	-1.63

Type B(n=5), Item Oriented, showed high positive z-scores for practical items that can be used on a daily basis. The biggest difference between practical items that were sorted as preferable and non-preferable was the objective of the item: whether the product was used for work and productive activities or not. Although a mug and file folder(statement 19, 6) can be both categorized as useful products, a mug is not necessarily viewed as a product for productivity while the other is. Many products that can be labeled as office stationeries such as page markers, spring notes, file folders, pencil cases, and sticky notes(statements 34, 8, 6, 14, 11) show negative z-scores. Most of the products listed under a high z-score are products linked to daily usage easily found at home.

Another characteristic factor is that Type B does not seem to show a big interest in or influence of the character image itself. Many of the products with positive z-scores have a rather minimal character appearance in the product. It is worth noting that among the products with the highest z-scores there are none of the two figure products(statement 4, 5) mentioned in Type A. Furthermore, the special collection figure(statement 5) is sorted among products with negative z-scores.

4.3 Type C: Character-item Oriented

[Table 5] Type C Item Description according to Descending Array of z-scores (top and bottom 9)

	Statement	Z-score
4	Figure Collection(±5.5cm)	1.77
7	Pen	1.71
5	Special Collection Figure(15cm)	1.63
31	Illustration Calendar	1.14
22	Badge	1.12
13	Card Wallet	1.00
17	Pouch	0.93
35	Wappen(Patch Badge)	0.92
27	Bottle	0.86

23	Umbrella	-0.72
11	Sticky Note	-0.84
16	Eco Bag	-0.85
33	Travel Sticker	-1.21
34	Page Marker	-1.56
9	Pocket Note	-1.57
25	Drawing Linen Cushion	-1.62
18	Slippers	-1.98
15	T-shirt	-2.19

Type C(n=3), Character-item Oriented, showed positive z-scores from a mixture of products among Type A and Type B sorted with a positive z-score. All of the 6 products that had a z-score of over +1.00 strongly visualized the entire character as a whole from head to toe. The 6 products included both practical and non-practical products; 3(statement 4, 5, 22) out of the 6 were non-practical, novelty items while the other 3(statement 7, 13, 31) were practical. Many of the products with the lowest negative z-scores included a mixture of products that showed some of the lowest negative z-scores from Type A and Type B. Among those products, one can observe that productivity oriented items such as sticky notes, page markers, and pocket notes(statement 11, 34, 9) are common items with low z-scores.

Type C can be viewed as having a strong affinity to the character and its image itself—similar to that of Type A—while having less resistance to practical applications—similar to that of Type B. As shown in [Table 6], Type C has a higher correlation to both Type A and Type B than the correlation between Type A and Type B. However, the higher correlation score to Type A suggests that Type C shows a stronger interest in the character than Type B. This is reflected in the observation mentioned above with all of the 6 products with a z-score of over +1.00 having a strong visual character presence.

[Table 6] Correlations between Types

	TYPE A	TYPE B	TYPE C
TYPE A	1.000	0.065	0.409
TYPE B	0.065	1.000	0.240
TYPE C	0.409	0.240	1.000

4.4 Type Comparison

The results above show that there are two types, Type A and B, with distinct preference factors that separate the two from each other, and another type, Type C, that is a mixture of the two. Although it is difficult to arrive at a consensus for what all three types *prefer* as a whole, one can make the observation that all types have a dis-preference toward productive or work-related products to a certain degree. In a follow-up comment, one participant(P6) stated that "office supplies are there for work" and that the character products shown in the Q-sort lacked "intuition." Another participant(P12) stated that "there is no reason to apply character or design elements to expendable products."

The above comments highlight the fact that most of the products mentioned as productive are expendable; they are meant to be used and consequently discarded at some point. Compared to other practical products such as cups, blankets, and bags, office supplies presented in this Q-sort do not last long. To some extent, all three types have a common preference for lasting products—making longevity an important factor in character-related products.

One can also observe from the characteristics of Type B and Type C that most female participants showed an interest in actually using or handling character products in person. Most products listed as preferable with high z-scores were compact items that could easily be carried around. It can be interpreted that female participants show a stronger

desire to have products close by and at hand—keeping *in touch* with the item more often. This is a distinctively different focal point than the characteristics shown in Type A, in which all but one of the male participants fell under. Although female consumers may or may not share the above desires in deciding whether a character product is worth buying, male consumers will most likely not consider the factors mentioned above.

5. Discussion

The results from this study revealed some factors that influence adults when buying character-related products. Type A showed a character oriented tendency with a preference toward collectible items that can be preserved and showcased. Type B demonstrated an item oriented tendency with a preference toward practical, daily-use items. Type C showed a character-item oriented tendency that combined choice factors from both Type A and Type B, showing preference toward items that showcased the character both far and close at hand.

All three types showed a dis-preference toward practical items related to work or productivity, mainly office supplies. The expendable nature and intuitive-lacking design drove participants away from such products. As adults, it can be concluded that most participants developed certain standards or expectations when it comes to their working environment, thus putting more emphasis on product designs based on work efficiency rather than visual satisfaction. This can possibly be a noticeable difference from teenagers or children in school, where professional efficiency is less important.

However, the study has its limitations and areas for improvement. Although the study meets the p-sample requirement for using Q-methodology,[5] the number of participants still lacks to apply as an extensive study. To use the results effectively, a more comprehensive study with a larger number of participants is necessary for future research.

Also, because the study only used images as a base for analysis, the study lacks a more thorough examination of the reasons behind participant decisions. Although the Q-sort data did provide numeric results, much of the contextual analyses translating those data relied on and included subjective interpretation. Even though the study did collect follow-up comments, it still lacked in detail for an in-depth analysis. For a more complete analysis of core decision factors influencing design preferences and consumer tendencies, a subsequent Q-sort study using statements from extensive participant interviews and comments will be necessary.

Nonetheless, the results of this study still provide a reasonable starting point in identifying key decision factors when it comes to buying character-related products as adults or kidults through offering insight into key factors that come into play. By understanding these key factors, developers can target characteristics of particular consumer types and combine those points to design a more inclusive product, or decide what designs to refrain from to appeal to a wider range of potential buyers. With a better understanding of target consumers, developers will be able to ideate better character product design directions that can aid them in successfully extending their mobile game business.

5) Q-methodology can be divided into an intensive study or extensive study depending on the number of participants. In an intensive study, as less as one participant is sufficient for analysis. An extensive study recommends around 40~60 participants or less, depending on the study, as an adequate p-sample[7].

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