



# Research Model for Traditional Board Game Renaissance

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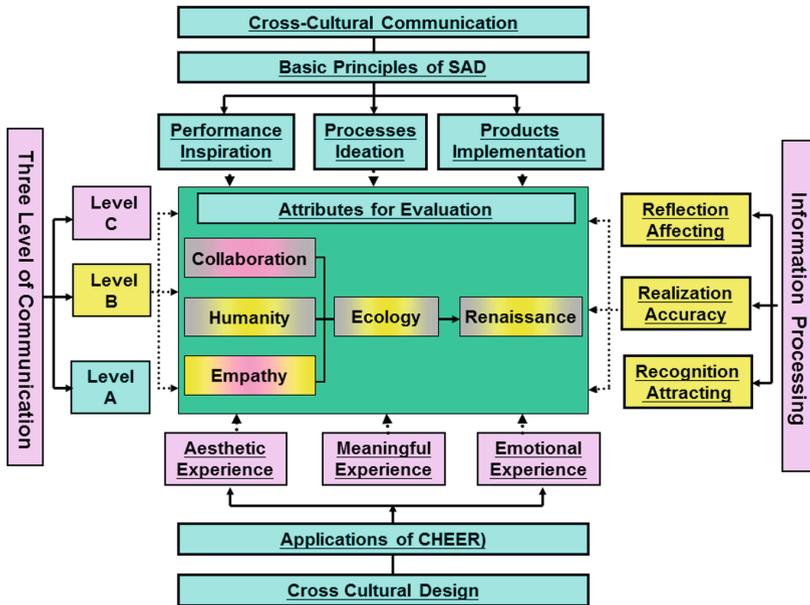
**Abstract.** Cross-Cultural communication in the field of Science, Art, and Design is a part of aspect that influence the growth of creative industrial product. In the context of product design in creative industry, a research related to cross-cultural communication, cultural wealth is a potential source of inspiration in creating global design products. The exploration can also make the culture more adaptive in globalization era with the transformation. There was a lot of studies to exploit cultural products objects into new design products, but not all of the studies using a relevant methods. One of the cultural product that has wide potential is traditional board games. Traditional board game has different character from artefacts because besides its physical form factor, it has an invisible aspect in the form of game rules. In traditional board game design products require special treatment to be able to research and understand it properly. In-depth research an appropriate approach method is required considering the transformation process of traditional game, not only limited to the conventional media shift into new media. This research tries to find the better method in processing the potential of traditional board games, which will later become a map in the research development. This studies aims to find the research stage by applying the model “From SAD to CHEER” in the context of traditional board games studies.

**Keywords:** Traditional board game · Cultural transformation  
From SAD to CHEER

## 1 Introduction

The globalization is a chance to promote and introduce the nation by a representative product. To be success full, innovative product must have a clear and significant difference feature that is related to market need [5]. Indonesia is the country rich of tribe and culture which is a potency for exploration in cultural studies. In the context of creative industries, the culture could be a resource for product design idea. One of the cultural wealth is traditional board game. According to Misbah, the definition of traditional games is the act of entertaining the hearts of both using tools or not using tools. While the meaning of “traditional” refers to the origin of the word “tradition” which

means, “the habit of descending descent is still executed”. So the word “traditional” means attitude and way of thinking, and acting that always cling to the norms and customs that existed from generation to generation”. Or it can also be interpreted as everything that is spoken and passed down from generation to generation from parents or ancestors [12]. Culture plays an important role in the field of design and cross cultural design will become a key point in design evaluation in the future [7]. This studies will only focus on the traditional game which is using “board” or traditionally using ground as the board or place to play the game.



**Fig. 1.** Cross-cultural communication in design collaboration: from SAD to CHEER. In International Conference on Cross-Cultural Design. Springer, Cham (to be publish in 2018)

To explore the potency of the traditional board game, the right method is required. Because the process of transforming the potency of traditional board game into new design product is not as easy as replacing the old material or shapes into new modern material. For design strategy, cultural value-adding creates the core of value adding [5]. Deep studies will help to determine the element of the game which should be maintain and which can be replace. The studies will begin by apply “From SAD to CHEER” method to find research model for traditional board game (Fig. 1).

## 2 Research Framework

Based on “SAD to CHEER” it revealed 3 level of communication, design process, audience response, and also product impact. The approach to applied the method in case study of traditional board game, is to use descriptive analysis of traditional board

game. The description will be a key to get a better understanding to the value of the culture manifest in the game. The value of the game will be a key in design evaluation point. “Culture” plays an important role in the design field, “and cross cultural design” will be a key design evaluation point in the future. Designing “culture” into modern product will be a design trend in the global market (Gao et al. 2016).

The Breakdown of design process at basic principle of SAD; 1. Performance Inspiration (which is traditional board game as the inspiration), 2. Process Ideation (the idea is creating cross cultural board game product), 3. Product Implementation (board game product design) and product implementation as application of CHEER; 1. Aesthetic Experience (transforming the form of the game), 2. Meaningful Experience (exploring game play), 3. Emotional Experience (elaborate context) (Fig. 2).

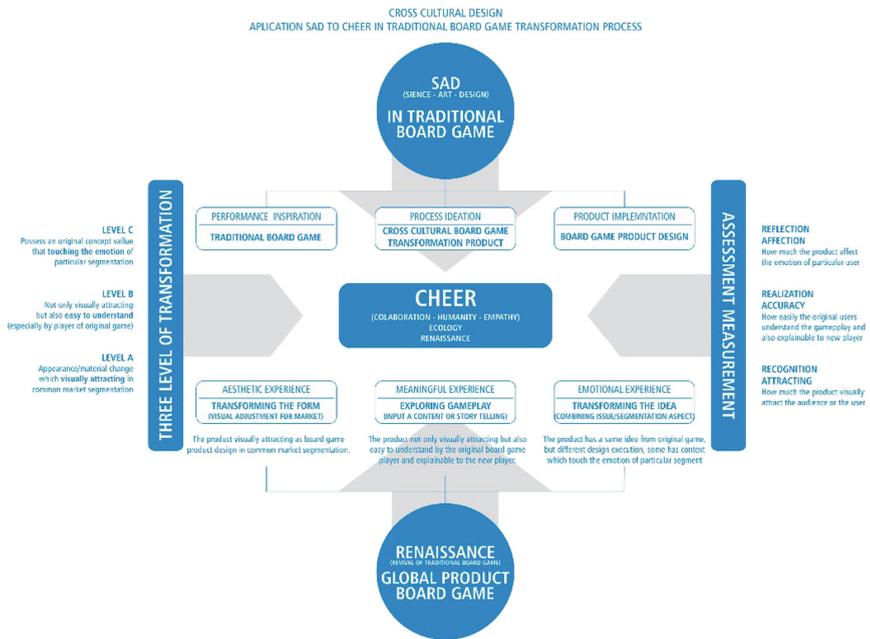


Fig. 2. Implementation SAD to CHEER in traditional board game Renaissance

The context of SAD of this topic is about SAD in Traditional board game. By using the model, there is a process of exploring traditional board game and transform it into 3 level of transformation, which is in each level, there is an assessment measurement to evaluate the process. Then define it by aesthetic experience, meaningful experience that will be a Renaissance of traditional board game, into global product board game.

The process to apply SAD to CHEER in traditional board game, will use the level of communication as the level of transformation the potency of traditional board game. There will be 3 level of transformation; (level A) The lower level which is only about tangible transformation will be a matter of turning physical aspect from the game so the game could visually attractive. (level B) Including Intangible transformation such as game play, so the transformation will define, does the product easily understand or not

by the original game player user and also explainable to the new user. (level C) the higher level contain the context value which combine with the original concept of game which touch the emotion of the user.

The other side of the information processing will be the assessment measurement; (level C) Recognition Attracting: how much the product attract the user visually. (level B) Realization Accuracy: how easy user will understand the game play of the product. (level A) Reflection Affection: how much the product affect the user emotion. This break down will help the designer to assess how much the product give impact to the user from inside to the outside. Its because “the outer level can be a very direct experience to present its tangible element. It is a direct manifestation of visual and morphological aspects combine with the conversion mode for colour, texture, pattern conversion...” (Gao et al. 2016).

### 3 Methodology

The research based on SAD to CHEER model to break down the traditional board game and translate it into the model for board game product context. The method to applying from SAD to CHEER model for transforming traditional board game into modern product with cultural attribute as the adding value of the product. Finally, for global market, adding cultural dimension to ergonomic has become an important issue for exploring interaction and experience in product design [10] (Fig. 3).

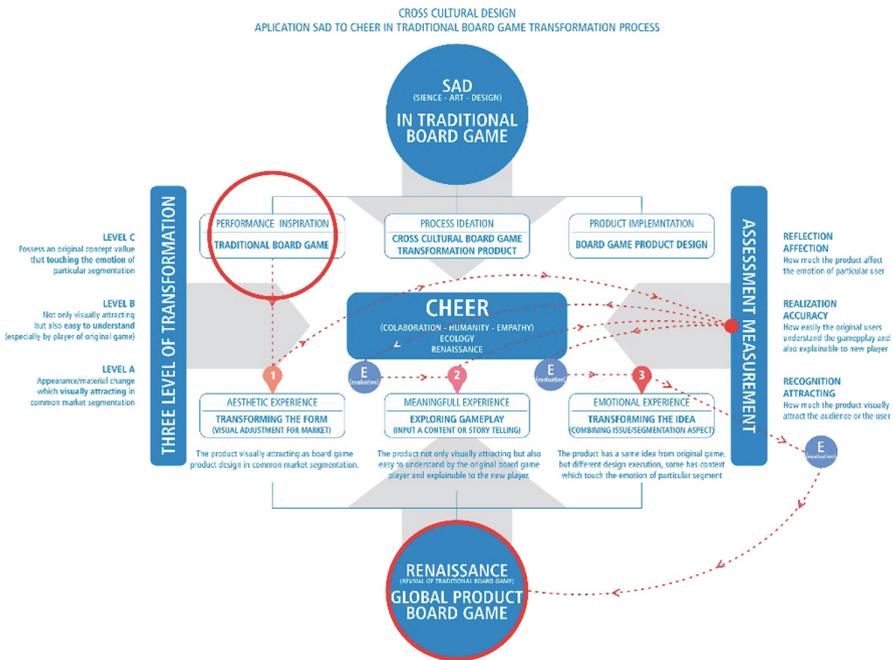


Fig. 3. Research work flow for traditional board game

The research method to exploration traditional board game studies using SAD to CHEER will be done in 3 level of research and design process;

(1) Transforming the form

In this research level, the designing process will be only in the matter of transforming the tangible aspect. The process of design could be called as ‘Redesigning’ or ‘Repackaging’ the traditional form into new design product for particular market segmentation using visual matter. The media exchange include from traditional into printing media, or even from traditional into digital media, as long there is no change in the game play aspect and only adding visual aspect into new design is also in this category.

(2) Exploring the game play

In this level, the research focus on game studies. Breakdown the value, meaning, and the purpose of the game play which can be explore and improve, so the game could be relevant into particular segment. The result of the studies will be a new suitable game play, or the theme of the game that will be a content of the game, improve from the game mechanic. The result will be a ‘modification’ of original game.

(3) Elaborating the context

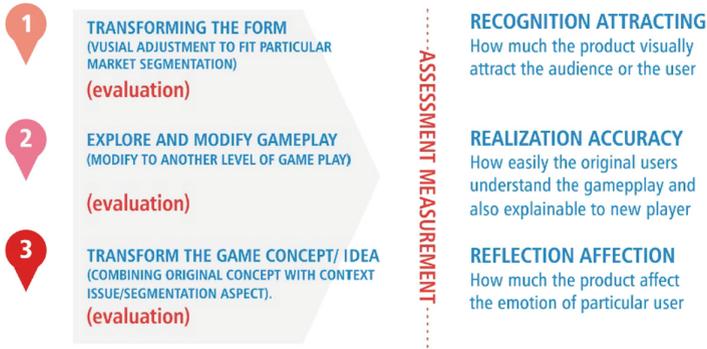
In this level the design process already touch the marketing strategy matter, especially in the segmentation aspect. Design strategy is considered to be one of the pivotal component in cultural and creative design industries, and this will have a significant impact on consumer perception of innovation [5]. By inputting a context or adding a story telling in design process, the result of product design process will affect the emotion of the audience. So the idea of the original game may still include in the new product, but with a different look and different game play.

To applied the perfect method of SAD to CHEER, all of three level should be done in the design process with an evaluation in every design process level. After all of the level is done, the assessment measurement process should be applied to assess the impact of the product.

## 4 A Case Study of Evaluating Traditional Board Game

One of the famous oldest board game is a chess. To get better understanding of applying SAD to CHEER in traditional board game transformation, the studies will take the famous board game chess as case study. To evaluate the model for traditional board game method, the studies will put chess in all of three level of transformation (Fig. 4).

The precursors of chess originated in India during the Gupta Empire, where its early form in the 6<sup>th</sup> century was known as chaturaṅga, which translates as “Four divisions (of the military)”: infantry, cavalry, elephantry, and chariotry, represented by the pieces that would evolve into the modern pawn, knight, bishop, and rook, respectively [16]. Chess board game from the history already has a lot of improvement



**Fig. 4.** Evaluating of design process in traditional board game

and adaptation in every country and century. From [Chess.com](http://Chess.com) we know that there is so many transformation and evolution of chess board game (Fig. 5).

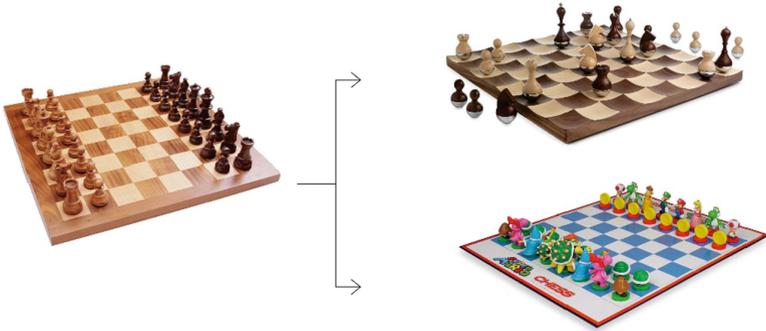


**Fig. 5.** Fragment of a chessboard and chess pieces from the 17th century (left) & chess today (right)

### 4.1 Transforming the Form

The process of design transformation of this stage as mention before, is about the tangible aspect including visual style. In the case study of chess board, the game could be redesign into different variation of product. From the ordinary chess board, there is a potency to modify the form and the visual of the chess. At first picture (below) the form and the visual is manipulate to imitate Mario Bross character concept. And the second picture is Umbra Wobble Chess, a modification of the chess form which has a round shape in every pawn's bottom (Fig. 6).

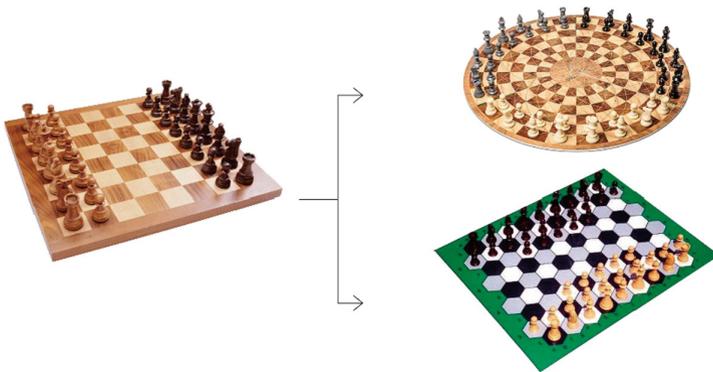
At this level, the key of transforming is there is no need to deep study about the game, all that need to do is creating a new looks of all game equipment. The key point of this level is if there is an increasing value of the product appearance (Aesthetic, Colour, Form, texture, material, icon, shape, and also the content) and the product will be visually attracting. The achievement of the design process should be assess by putting a key factor about the visual comparison of before and after product.



**Fig. 6.** Chess board redesign form and visually; 1. Mario bross chess, 2. Umbra wobble chess

## 4.2 Exploring the Game Play

The next step of previous level is about intangible aspect studies. In this level, the transformation design process need a deeper studies, especially in the matter of game play, the mechanic of the game, also the game studies which purpose to explore and improve the game play of the game. So the result of the process will be a new game with different level of play that still be understand by the original user and explainable to the new user (Fig. 7).



**Fig. 7.** Chess board game adaptation; 1. 3 Man chess, 2. Hexagonal chess

The picture above explain, from the ordinary chess could be transform into a new game adaptation from the original chess. The first picture (above) is 3 Man Chess, the chess which can be played by three player. The second picture called Hexagonal Chess, the chess which has an improvement shape and rule (by adding more pawns and different game play).

The process of exploring the game play could be support by doing a deep research in the game studies, and also doing some experiment to improvise the original game into a new form of game. The key word of this transforming process called adaptation

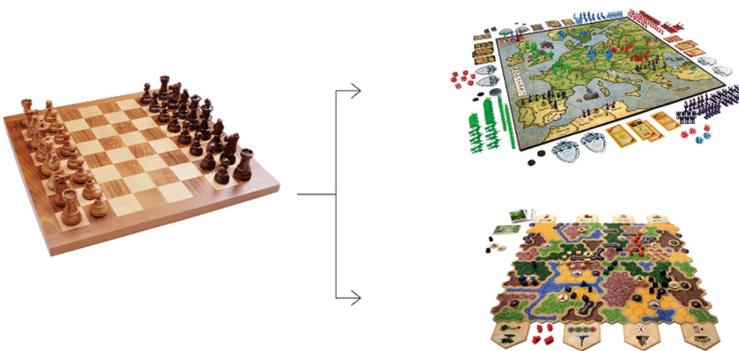
of the original game, it because the result of the design process will be a similar game from the original one, but contain different rule or equipment which can define that the game is different from the original one, with some of similar aspect such the form of the board, the number of the equipment, or event the rule.

The evaluation of this level is by using assessment measurement which is include a key factor of the game play and the level of understanding the game play by the original user. The visual aspect could be change and improve, but the main different of this level and the previous level is the intangible aspect of the game which is about the game play improvement.

### 4.3 Elaborating the Original Idea with the Context

This level will takes deep studies covers, game studies, product design, market segmentation, and also the studies of story telling which can help to build the context of the game, such educational issue, campaign, intelligence and soon. So the result of the game should be really new and different from the original. The original game will be only the source of inspiration. The key factor of this design process is the novelty gained from a traditional board game exploration. At the other hand the design process could be an innovation of exploring the original game. In the global market - local design era, connection among local culture, global market, and innovative products in design strategy becomes increasingly close (Lin 2012).

From the ordinary chess board game, the process has to catch the idea of the original game as the inspiration to create a new kind of board game. As the context of chess case studies, we know that the game is about the battle of two kingdom involve a group of kingdom element. By this context there is a lot of possibility to explore the original game into a new different product by exploring the context, replacing the content, adding the rule of the game, and also modify the whole aspect of the game (Fig. 8).



**Fig. 8.** Chess board game adaptation; 1. Kingdom builder (Vaccarino 2011), 2. Risk (Parker Brothers/Hasbro 1957)

## 5 Resume

From the case studies above, it can be resume that there is 3 level of board game transformation based on SAD to CHEER method application. The level contain the lower level into higher level of transformation design process (Fig. 9).

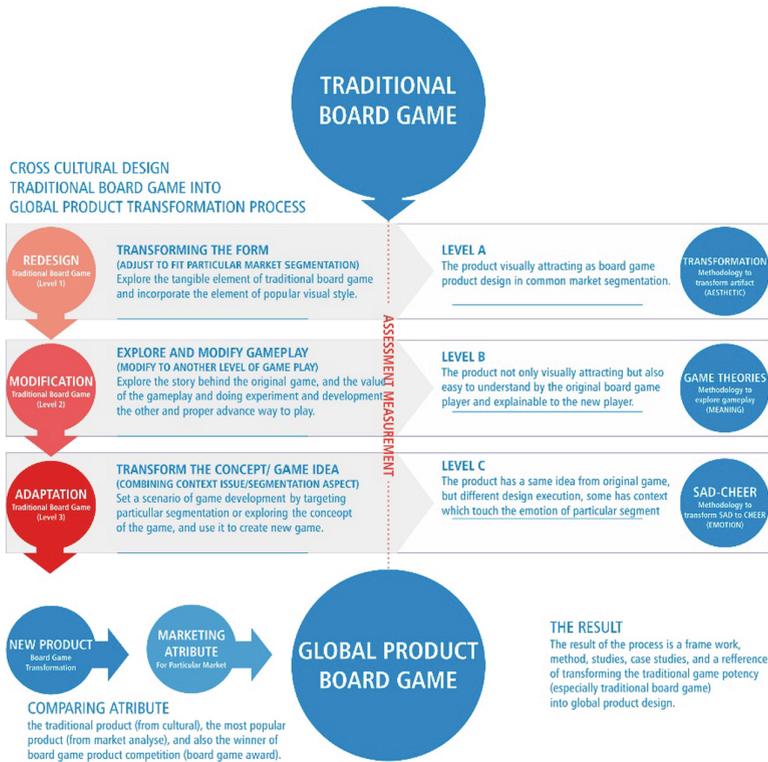


Fig. 9. Three level of board game transformation design

As the result three level of board game transformation process as an approach to create new board game product design which can be a global product is; (1) Redesign level, which explore the tangible aspect and redesign it into a product which visually attractive. (2) Modification level, which explore the intangible aspect and modify the game play, so the game has some improvement of game play, but still can be recognize as original game in some element. The assessment is still require to know how much the product will be understand by the original game player and also explainable to the new user. (3) the other level of traditional board game transformation process is the Adaptation, which is the original board game is used as the inspiration aspect to create a new board game. And the result of this design process is a new board game which is totally different with the original one. The idea may the same with the original game

but has different design and game play execution. This level of processing the potency of traditional board game may become an innovation.

By using all of three level above, the research will come closer to explore traditional board game as one of the cultural richness. For the next research, the process will use the real case of traditional board game which transform by applying all of three level of transformation process. So there will be a better understanding and method to explore the potency of traditional board game, into modern global product.

### Image Source

Ancient chess:	<a href="https://en.wikipedia.org/wiki/List_of_chess_variants">https://en.wikipedia.org/wiki/List_of_chess_variants</a>
Chess nowadays:	<a href="https://goo.gl/sC84Ne">https://goo.gl/sC84Ne</a>
Chess before:	<a href="https://goo.gl/eCuAZA">https://goo.gl/eCuAZA</a>
Modern set chess:	<a href="https://id.pinterest.com/pin/211035932508487669/">https://id.pinterest.com/pin/211035932508487669/</a>
Chess lamp:	<a href="https://id.pinterest.com/pin/526639750154233230/">https://id.pinterest.com/pin/526639750154233230/</a>
Round chess:	<a href="https://id.pinterest.com/pin/439734351106950876/">https://id.pinterest.com/pin/439734351106950876/</a>
3 player chess:	<a href="http://tvtropes.org/pmwiki/pmwiki.php/Main/VariantChess">http://tvtropes.org/pmwiki/pmwiki.php/Main/VariantChess</a>
Hexagonal chess:	<a href="http://www.chessvariants.com/hexagonal.dir/rex.html">http://www.chessvariants.com/hexagonal.dir/rex.html</a>

### References

1. Alif, M.Z.: Perubahan dan Pengembangan Bentuk, Fungsi dan Material Mainan Dalam Permainan Anak di Masyarakat Sunda. Tesis Program Magister Desain FSRD. Institute Teknologi Bandung, Bandung (2006)
2. Browan, T., Jocelyn, W.: Design thinking for social innovation. Stanford Social Innovation Review Winter. Graduate School of Business (2010)
3. Dharmamulya, S., Dkk: Transformasi Nilai Melalui Permainan Rakyat Daerah Istimewa Yogyakarta. Departemen Pendidikan dan Kebudayaan, Yogyakarta (1993)
4. Dharmamulya, S., Dkk: Permainan Tradisional Jawa. Kepel Press Puri Arsita A-6, Yogyakarta (2008)
5. Hsu, C.H., Chang, S.H., Lin, R.: A design strategy for turning local culture into global market. *Int. J. Affect. Eng.* **12**(2), 275–283 (2012). Japan Society of Kansain Engineering
6. Khamadi, K., Sihombing, R.M., Ahmad, H.A.: Perancangan Konsep Adaptasi Permainan Tradisional Bas-Basan Sepur dalam Permainan Digital “Amukti Palapa”. *Wimba: Jurnal komunikasi dan multimedia* **5**(2) (2013)
7. Lin, R.: Transforming Taiwan aboriginal cultural features into modern product design: a case study of a cross-cultural product design model. *Int. J. Des.* **1**(2), 45–53 (2007)
8. Lin, R., Chen, C.T.: A discourse on the construction of a service innovation model: focus on the cultural and creative industry park. In: Ifinedo, P. (ed.) *EBUSINESS-Application and Global Acceptance*, pp. 119–136. InTech, Rijeka (2012)
9. Lin, R., Kreifeldt, J., Hung, P.-H., Chen, J.-L.: From dechnology to humart – a case study of Taiwan design development. In: Rau, P.L.P. (ed.) *CCD 2015. LNCS*, vol. 9181, pp. 263–273. Springer, Cham (2015). [https://doi.org/10.1007/978-3-319-20934-0\\_25](https://doi.org/10.1007/978-3-319-20934-0_25)
10. Lin, R., Hsieh, H.-Y., Sun, M.-X., Gao, Y.-J.: From ideality to reality- a case study of Mondrian style. In: Rau, P.-L.P. (ed.) *CCD 2016. LNCS*, vol. 9741, pp. 365–376. Springer, Cham (2016). [https://doi.org/10.1007/978-3-319-40093-8\\_37](https://doi.org/10.1007/978-3-319-40093-8_37)

11. Lin, R., Li, H.L., Wu, J.: Cross-cultural communication in design collaboration: from SAD to CHEER. In: International Conference on Cross-Cultural Design. Springer, Cham (2018, to be publish)
12. Misbah, I.H.: Peran Permainan Tradisional Yang Bermuatan Edukatif Dalam Menyumbang Pembentukan dan Identitas Bangsa. IPI, Bandung (2007)
13. Nugraha, A.: Transforming Tradition: A Method for Maintaining Tradition in a Craft and Design Context. Aalto University, School of Arts, Design and Architecture, Helsinki (2012)
14. Purwaningsih, E.: Permainan Tradisional Anak: Salah Satu Khasanah Budaya Yang Perlu Dilestarikan. *Jantra History And Culture Jurnal* **1**(1), 40–46 (2006). Departemen Kebudayaan dan Pariwisata, Yogyakarta
15. Sachari, A.: *Budaya Visual Indonesia*. Erlangga, Jakarta (2007)
16. Ostler, J.: History of Chess, 2 May 2012. <https://goo.gl/HB47jR>