Cultural Determinants of Board Game Preferences

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Abstract

The purpose of this article is to give some insight into the cultural determinants of games, based on the cultural dimensions theory by Geert Hofstede and on certain national preferences regarding board games. By means of statistical description, average values and standard deviations of board game ratings have been analysed across different countries, and this set of data has been compared to cultural dimensions theory indicators. Preliminary results suggest that there can be a link between the long term orientation culture index and the higher ratings of games that put an emphasis on strategy rather than tactics. However, due to imperfections of the available data no definitive link could be established.

KEYWORDS: cultural determinants, long term orientation, modern board games, national preferences

1. Introduction

The lack of one universal typology of games in general and board games in particular makes it really difficult to analyze them cross-culturally. There
have been some attempts to give this research area a rigid structure; however, they have been either too general to draw any concrete conclusions in terms of board games preferences (e.g., Huizinga, 1955; Caillois, 1961) or too game-type-specific to draw conclusions of a more universal character (e.g., Lean et al, 2006; Hofstede, de Caluwe, Peters, 2010). This article tries to merge the well-established cultural dimensions theory with some raw data on board games to show the possible factors determining the popularity of specific types of games across different cultures.

The cultural dimensions theory by Geerd Hofstede (Hofstede, Hofstede 2005) strives to explain how the national culture influences the organizational culture. The five dimensions (initially there were only four) are the following:

- **Power distance** – the level of acceptance that less powerful members of society have for the inequality of power distribution in this society, as well as the level of obedience to parents and superiors who do not offer a justification for their actions.
- **Individualism vs. collectivism** – the level of integration of a person into a group; this dimension concerns an individual’s independence.
- **Uncertainty avoidance** – the degree to which anxiety is felt in the face of new and unknown situations, and to which individuals are able to accept the unpredictability of social relations and the uncertainty of the future.
- **Masculinity vs. femininity** – this dimension describes differences between sex roles in society and a general preference for ‘male’ or ‘female’ behaviors in that society.
- **Long term orientation vs. short term normative orientation** – the balance between focusing on the past, present and future; normativity vs. pragmatism in everyday life.

Although there has been some criticism concerning several methodological issues of this research (Gerhart, 2005), it still offers a comprehensive and complete coverage of the cultural diversity area. The five dimensions are still being used not only to describe the organizational culture but also as a basis for many comparative studies of culture in general (e.g., Seul, Alcantara, 2011; Catan, Catan, 2010). Every dimension addresses culture from a different perspective and can serve as a foundation for a new set of analyses.

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1 In the latest version of Hofstede’s research a sixth dimension has been introduced – indulgence vs. restraint. It covers the relation of society towards the free gratification of its members’ needs, the importance of leisure and the acceptance of the freedom of expression. This dimension could potentially influence the behavior of players during negotiation games. Yet the concept is relatively new (see Hofstede, Hofstede, Minkov, 2010) and is thus not included in this paper.
The idea behind this paper is that Hofstede’s theory can help to explain what types of games are preferred in certain types of cultures. Several limitations have to be taken into account here. Firstly, one must realize that the theory describes culture only in general. Every specific conclusion based on it can be drawn only with respect to other factors which can influence the described phenomena. Secondly, there is little if any concise and complete comparative analysis of games across different cultures. Some researchers (see Yang et al., 2008; Fowler, 2006) cover the topic of training games; however, there is still a lot to be done in this area. Thirdly, the types of games in general are subject to many discussions (Connolly et al., 2012).

The most suitable method of research here is statistical description. This is because of certain characteristics of the employed data, which is partly qualitative and partly quantitative. On the one hand, the numbers of observations differ greatly between described games; because of this, applying typical quantitative methods is rather questionable and representativeness cannot be achieved. On the other hand, there is not enough qualitative data to perform, e.g., transcribing and coding of the BGG-users’ comments.

2. Selected typologies of games

Games can be divided in several ways, depending on the perspective that the researcher is interested in. Many researchers have been trying to create a substantial and useful categorization. The most common approaches are as follows:

- Perfect (“all players have the same knowledge about the current state of the game ... and the state resulting from applying an action to the current state”) vs. imperfect information (“the players have different information on these aspects”) (Halck, Dahl, 1999);
- Stochastic (“the payoff corresponding to each player’s choice is a stochastic variable”) vs. deterministic (the payoff is a fixed number) (ibidem);
- Group-oriented vs. individual (Wit, Wilke, 1992);
- Competitive vs. non-competitive (Vossen, 2004);
- Interactive vs. non-interactive (ibidem);
- Physical vs. non-physical games (ibidem);
- Physical, chance and strategy games (Sutton-Smith, Roberts, 1971);
- Traditional and electronic (based on the equipment required to play the game);
- Real-time vs. turn-based (a derivative of computer strategy games);
- Arcade vs. knowledge-based (which corresponds in a way with the “physical-non-physical” dimension).
As can be seen, some approaches focus on the process, others consider the tools as the main differentiating criteria, and yet others are based on the selected characteristics of the players. Some of these typologies are well-established; others are still a matter of investigation (see also Connolly et al., 2012).

The presented approaches to organizing the world of games show that there is no single and unified concept spanning the whole spectrum of different aspects of gameplay. The above typologies have been recalled to give an overview of various perspectives taken by game designers and researchers. The same diversity applies to the term ‘mechanic’ which will be explored in detail in the fourth section.

3. Modern board games

A serious limitation in constructing and applying a systematic classification of games is the lack of empirical data across different countries and cultures. The data on board games used in this research comes mainly from Board-GameGeek (later described as BGG) – the biggest internet site about board games in the world. Since most of its content has been uploaded by the users themselves, a strong methodological reservation rises with regard to using this kind of data in any research at all. Although the content is being approved by the site administrators, the number of uploads exceeds significantly their ability to check it thoroughly. It is likely that the administrators can only verify if the materials have been uploaded in the correct category and if they do not break the copyright law. For this reason, most of the data coming from BGG must be interpreted with extreme caution.

Nevertheless, the site offers so many different sets of data and functionalities that it is possible to clean the data and use it to receive reliable information. On the very basic level, numerous descriptions of every board game in the database allow for going into detail on every game (e.g., publisher/developer, author, number of owners, average user rating, user comments, category, mechanic, etc.). Some opportunities for a more sophisticated analysis are available as well (e.g., average rating by country, various possibilities of sorting the data, etc.) and combining all the dimensions can be fruitful in terms of scientific analysis.

4. Game mechanic and culture-based preferences

The scientific approach to the term ‘game mechanic’ can be found in Schell’s work (2008) where it is described as “the interactions and relationships
that remain when all of aesthetics, technology, and story are stripped away” (ibidem: 130). In this respect there are six mechanics:

- Space,
- Objects, Attributes, and States,
- Actions,
- Rules,
- Skill,
- Chance.

Unfortunately this classification is so general in nature that it is virtually impossible to make it useful for further research without somehow expanding or enriching it.

The definition above represents the general idea of what a mechanic is and is also representative for other efforts in terms of the clarity of description. Several different attempts have been made to make this concept more precise but the most useful one for this research has turned out to be the definition created by practitioners – the one coming from the BGG.

The term ‘game mechanic’ describes the “functional aspect of a game” (BGG, 2013a) or the element of a game that drives the gameplay. The term is mostly used to define the component that is crucial to teaching and learning the game. In June 2013, at the time of carrying out the study presented below, BGG (2013) listed forty-eight different mechanics. Three more were added until December 2014. The gradual increase over the years is due to the fact that new games introduce a completely new mechanic or modify established mechanics enough to merit a separate entry. The most recent notable examples of entirely new mechanics are: worker placement introduced by Caylus in 2005 and deck-building introduced by Dominion in 2009. One should bear in mind that BGG’s typology is not based on a scientific approach and is rather of a descriptive nature, trying to capture some most significant aspects of the gameplay. Hence, the particular mechanics serve only as examples and in order for the research based on the BGG data to be accurate a more structured approach would be needed.

There are some more precise and literature-grounded approaches (see also Schell, 2008) that can be adopted for further analysis but their basic limitation is that they do not cover such a wide variety of games as the BGG itself.

According to BGG, the five most popular mechanics in board games are:

- Dice Rolling (over 11,480 games),
- Roll/Spin and Move (10,900 games),
- Set Collection (5,720 games),
- Hex-and-Counter (5,360 games),
- Hand Management (4,980 games).
The first two categories seem to be strongly interwoven as “dice rolling game are games where dice are used for randomness” (BGG, 2013b) and “roll/spin and move games are games where players roll dice or spin spinners and move playing pieces in accordance with the roll” (BGG, 2013c). Therefore, in some cases the same game can belong to both categories while containing just a simple dice rolling mechanic. This similarity is misleading – in June 2013 the first fifty-nine games from the BGG ranking that represented the first category did not belong to the second one. Only the 60th game shared both mechanics.

The next three mechanics are more distinct, although set collection and hand management often coincide in many card games. Hex-and-counter games in turn are almost solely wargames where players use counters to represent resources, moving these counters on a hexagonal grid that offers six directions of movement in opposition to a conventional four-directional square-based board.

The other forty-three mechanics are far less frequently used – in some cases less than one hundred games employ a certain mechanic.

The mechanics described at BGG can be used to determine whether a game – and therefore a mechanic – is popular in a country and whether this popularity is consistent with that of other games employing the same mechanic. Of course, one can name several limitations of this approach.

The first issue is that the popularity of games depends on various variables (e.g., theme, graphics, author, simplicity/complexity of rules, publisher/developer, marketing campaign, language dependence or market availability, to name only some of them) and only a few are caught in the mechanic itself. Having taken that into account, one can safely assume that some general dependencies between the game mechanic and the popularity of a particular game in a country exist. This will be analyzed further.

Another limitation of this type of research is that very few board games are based on just one mechanic. Most of them merge more than two and it is virtually impossible to make a clear and precise attribution of a game to a particular mechanic category. Furthermore, some of the mechanics appearing in games are frequently omitted due to the lack of knowledge of the people preparing the entries. This leads to certain problems with specific descriptions of many games in terms of the mechanics used in the design. Nonetheless, usually one leading mechanic drives the gameplay and the other one(s) may be treated as complementary. There exist of course some games in which there are more than one leading mechanics and it is difficult to name the particular one; however, the sample from the BGG database indicates that such games are a minority.

The attribution of described games to a specific category will be conducted here basing on the structure of a game and on the key actions that lead to the game ending. In case of serious doubts or ambiguity, the game will be excluded.
from the sample. This way the sample should contain ‘pure’ games. Notably, the abovementioned procedure leads to overrepresenting some games/mechanics and underrepresenting others; this issue can be addressed in later research as it requires a separate analysis.

The last but certainly not the least important limitation of this research is the nature of the statistics coming from BGG. The site is a place used mostly by people dedicated to the board game world, which results in a skewed distribution of ratings. Most of the users that rate games and contribute to the statistics are the so-called ‘gamers’ who tend to choose and like games of a rather higher level of complexity and lower level of randomness. Additionally they sacrifice their time to add some information to the site, which is another factor disrupting the data in favor of hobby gamers and heavy users. The implications of this reservation can be taken into account in a relatively easy way. As the ratings of games are produced by a group of gamers and this group is overrepresented in all countries present on the BGG, the results are not representative for all people playing games. However, the data is likely to be skewed in an approximately similar way for all countries.

The links between a game mechanic and culture-dependent variables depend on the cultural dimensions as distinguished by Hofstede (Hofstede, Hofstede 2005). The assumptions based on the literature review are as follows:

- **Power distance** – in cultures with a higher power distance there should be a visible disposition towards games with a competitive aspect but with little confrontation.
- **Individualism vs. collectivism** – group-oriented cultures should prefer cooperative games whereas individualistic ones should prefer direct confrontation (see also Tsang, Prendergast, 2009).
- **Uncertainty avoidance** – in cultures with low acceptance for unpredictability deterministic games with perfect information and with small or no element of luck would probably be more popular.
- **Masculinity vs. femininity** – no unequivocal link could have been determined.
- **Long term orientation vs. short term normative orientation** – in cultures with long term orientation there should be a preference for games that require long term planning (see Peregrine, 2008).

Not all of these dimensions can be directly linked to a particular game mechanic. Competition and confrontation occur in games with so many different mechanics that it is virtually impossible to clean the data in a way that would enable its use in this research. Similarly, perfect information is an element of many mechanics and cannot be linked to a specific one. The game elements that can be attributed to a specific mechanic are shown in table 1.
Table 1. Game elements and mechanic

<table>
<thead>
<tr>
<th>Game element</th>
<th>Mechanic (from BGG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td>Cooperation</td>
</tr>
<tr>
<td>Luck-based gameplay</td>
<td>Dice Rolling</td>
</tr>
<tr>
<td></td>
<td>Roll/Spin and Move</td>
</tr>
<tr>
<td>Long Term Planning</td>
<td>Action Point Allowance System</td>
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<tr>
<td></td>
<td>Pick-Up and Deliver</td>
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<tr>
<td></td>
<td>Route/Network Building</td>
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</tbody>
</table>

**Source:** The author’s study of the data from BGG – retrieved on June 28th, 2013

In June 2013, the most popular games in the world that used the following mechanics as the only/leading ones were (BGG, 2013e):

- **Co-operative Play:** *Pandemic, Arkham Horror, Shadows over Camelot* (over 10,000 ratings); *Lord of the Rings, Ghost Stories, Space Alert* (less ratings).
- **Dice Rolling:** *The Settlers of Catan, Small World* (over 15,000 ratings); *Stone Age, Risk* (less ratings).
- **Roll/Spin and Move:** *Monopoly* (over 10,000 ratings); *Last Night on Earth: The Zombie Game, Clue* (less ratings).
- **Action Point Allowance System:** *Tikal, Through the Ages: A Story of Civilization* (over 8,000 ratings); *Chaos in the Old World, Jambo, Torres* (less ratings).
- **Pick-up and Deliver:** *Galaxy Trucker, Railroad Tycoon, Age of Steam* (over 5,000 ratings); *Steam, Niagara, Genoa* (less ratings).
- **Route/Network Building:** *Power Grid, Ticket to Ride, Thurn und Taxis* (over 10,000 ratings); *Through the Desert, Brass* (less ratings).

One issue should be addressed here. Five out of six mentioned mechanics refer to operations conducted by players during gameplay and the first one – co-operative play – refers to interrelations between players. Hence these mechanics cannot be compared in a direct way. Yet the aim of the following analysis is just to show some relations between selected game characteristics and national cultures, and the fact that the analysis is limited only to a statistical description means that this discrepancy does not hinder the drawing of cautious conclusions.

Three out of five Hofstede’s dimensions could be described in terms of the related popularity of board game mechanics: individualism, uncertainty avoidance and long term orientation. In the case of board games the most suitable aspect to describe is whether the game requires long term planning, or whether it is of rather tactical nature, forcing players to react to current events. One country with a high long term orientation index is China and some countries with
low values are the United Kingdom and the USA (Clearlycultural, 2012). In this dimension the data concerning many countries is still being calculated.

Three countries were chosen to make a comparison: China, the United Kingdom and the USA. On the one hand, they are close to the extreme ends of the long term orientation index, which should make for clear dependencies and for results that are easier to interpret. On the other hand, those countries have numerous users on BGG; this way, the numbers of observations allow for drawing more unequivocal conclusions. The games with the highest numbers of ratings and using the three abovementioned mechanics have been analyzed and the results are as follows.

The games that were chosen for a comparison put a strong emphasis on a strategic planning. The reasons were two: first, they should show a significant difference in preferences between the cultures from the opposite sides of the dimension; second, games that require strategic planning are more popular among BGG users than the ones with gameplay based on different types of randomizers, and therefore the number of observations will allow for drawing more precise conclusions.

5. Examples of games in selected countries

The popularity of a game in a specific market (e.g., region, country) can be measured in a couple of ways:

- Sales of the game (pure marketing indicator but with some link to the game content itself).
- Number of editions (in the case of the more popular games – the less popular are issued only once).
- Number of ratings (the more people in a specific country play the game, the more rate it at BGG).
- Number of users owning/wanting the game (see above).
- Average BGG rating (the higher the rating, the more popular the game in a specific country²).
- Standard deviation of the average rating (the more unanimous the players from one country, the higher the probability that the game

² “To prevent games with relatively few votes climbing to the top of the BGG Ranks, artificial ‘dummy’ votes are added to the User Ratings. These votes are currently thought to be 100 votes equal to the mid range of the voting scale: 5.5 … Games with a large number of votes see their BGG Rating alter very little from their Average Rating, but games with relatively few user ratings will see their BGG Rating move considerably toward 5.5. … In effect, usually the games with many votes will Rank higher than those games with the same Average Rating but fewer votes” (BGG, 2013d).
is popular among different groups, which indicates that the popularity of the game may be more strongly associated with the culture).

The last two criteria, average rating and its standard deviation, are the most useful ones for the purpose of this study. On the one hand, they reflect the number of owners of the game in a particular country; and on the other hand, they mirror the extent to which the game is liked in the given culture. While it is neither a perfect nor a complete way to examine the popularity of games and their mechanics, it is the best one considering the availability of data.

Table 2 displays average ratings and standard deviations for a selection of games from the three countries named in the previous section: China, the USA, and the UK.

Table 2. The ratings of example games in selected countries (June 2013).

<table>
<thead>
<tr>
<th>Game</th>
<th>China</th>
<th>USA</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tikal</td>
<td>7,23</td>
<td>0,62</td>
<td>7,32</td>
</tr>
<tr>
<td>Through the Ages</td>
<td>8,61</td>
<td>1,31</td>
<td>8,11</td>
</tr>
<tr>
<td>Galaxy Trucker</td>
<td>7,47</td>
<td>1,25</td>
<td>7,44</td>
</tr>
<tr>
<td>Railroad Tycoon</td>
<td>7,70</td>
<td>1,81</td>
<td>7,63</td>
</tr>
<tr>
<td>Age of Steam</td>
<td>7,99</td>
<td>0,84</td>
<td>7,70</td>
</tr>
<tr>
<td>Power Grid</td>
<td>8,23</td>
<td>1,19</td>
<td>8,05</td>
</tr>
<tr>
<td>Ticket to Ride</td>
<td>7,30</td>
<td>1,21</td>
<td>7,56</td>
</tr>
<tr>
<td>Thurn und Taxis</td>
<td>7,25</td>
<td>1,05</td>
<td>7,22</td>
</tr>
</tbody>
</table>

Source: The author’s calculations based on the data from BGG (retrieved on June 28th, 2013).

Only some of the ratings are consistent with the expectation that players from the country with a high long term orientation index would rate the games with a strong strategic component higher than players from the country with a low value of this index. Two games directly contradict this statement: Tikal and Ticket to Ride (bolded fields in the table). The latter is set in the USA and uses its map as the board. Therefore, ratings of American players are likely higher because of the aspect of ‘patriotism’ and American users dominate BGG among the English-speaking countries – for instance, the number of British ratings

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3 The publisher of Ticket to Ride also released several other games in the series presenting various regions of the world (Europe, India, Africa, Germany, Nordic Countries, etc.). Yet these are available as separate entries in the BGG database and do not count towards the result.

4 Although Age of Steam uses the USA map as well, the depiction of geographical items is far more symbolic and the map covers only a fraction of the US territory (the Great Lakes System).
never tops 10% of the ones from the USA. *Tikal* is another case – the game puts emphasis on lonesome discovering of the uncharted land. Perhaps this factor influences the preferences in selected countries, as both Western countries are strongly individualistic, in contrast with China, where collective interest is the most important. Yet this is only a supposition that needs a closer examination.

Other countries (Hong Kong, Taiwan and Norway) have also been analyzed but no definitive interrelations were found. This indicates that even if there is in fact a connection between national culture and the type of games preferred in a specific region, the available data neither supports nor contradicts this connection.

As the above example shows, the ratings of particular games could be linked to a particular cultural dimension but the available data does not allow for drawing firm conclusions. The cited data also shows how disruption-sensitive this data is. Even a small factor (the map on the game board) could potentially influence the popularity of a game in a specific country. Therefore, the quantitative analysis should be expanded and more countries as well as games should be included. A bigger and more differentiated sample would allow for drawing firmer conclusions and would give more unequivocal information.

Hence, the relationship between national culture and the type of games preferred in a specific region could not be traced in the abovementioned way. However, this does weaken the statement that while designing games, one needs to have in mind that a game better fitted to the specific set of preferences (deriving from various dimensions of Hofstede’s theory, not just from long term vs. short term orientation) would be more successful in terms of the participants’ satisfaction. The present paper does not give a simple answer as to how this can be achieved but outlines a research direction proposal for the future analysis.

6. Summary

The presented study is based on some analogies and interdependencies between board games and national cultures characteristics; therefore, it does not have the power of proof. It is rather meant as an incentive to a discussion on intercultural differences of games in general. Although this area has been explored to a very limited degree, the study touches on issues that are of great importance for game designers, developers and researchers.

The conclusions are subject to further discussion and present only a general framework for deepened and widened studies of this topic. However, the direction is promising in terms of potential outcomes that may impact both theory and practice of game design and game use.
REFERENCES


Cultural Determinants of Board Game Preferences

INTERNET SITES


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Kulturowe wyznaczniki preferencji wobec gier planszowych

**Abstrakt**

Celem tego artykułu jest nakreślenie kulturowych uwarunkowań gier na podstawie teorii kultury organizacyjnej i narodowej Geerta Hofstedego oraz pewnych narodowych preferencji wobec gier planszowych. Za pomocą opisu statystycznego przeanalizowano średnie oceny i odchylenia standardowe ocen gier planszowych w różnych krajach i zestawiono te wskaźniki ze wskaźnikami kultury narodowej. Wstępne wyniki sugerują, że może istnieć związek pomiędzy wymiarem orientacji długoterminowej kultury a wyższymi ocenami dla gier kładących nacisk raczej na strategię niż taktykę. Jednak ze względu na niedoskonałości dostępnych danych nie udało się uzyskać jednoznacznych rezultatów.

**SŁOWA KLUCZOWE:** uwarunkowania kulturowe, orientacja długoterminowa, nowoczesne gry planszowe, preferencje narodowe