

An Exploratory Study on the Purchase Intentions of Modern Board Games

Mehmet Kosa

Arizona State University, Department of Psychology,
mkosa@asu.edu
Tilburg University, Department of Cognitive Science and
Artificial Intelligence
m.kosa@tilburguniversity.edu

Pieter Spronck

Tilburg University, Department of Cognitive Science and
Artificial Intelligence
p.spronck@tilburguniversity.edu

ABSTRACT

Board gaming as a leisure activity is becoming increasingly popular. The research on modern commercial board gaming is also gaining momentum. In this study, we aim to investigate the factors that may play a role in board game purchase intentions. We conducted an online survey and collected data from habitual board gamers. Multiple regression analyses showed that enjoyment, positive word of mouth, age and gender were positively associated with purchase intentions whereas income, play frequency, prior board gaming experience and feelings of presence were not. We discuss the results and present potential future research.

CCS CONCEPTS

• Operations Research; • Consumer Products;

KEYWORDS

Board Games, Tabletop Games, Purchase Intentions, Enjoyment, Word of Mouth

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1 INTRODUCTION

Board (tabletop) gaming started to become increasingly popular, especially with the help of the social media boom (Pittwire, 2020). Published tabletop game numbers per year are increasing exponentially and the global tabletop gaming market value is forecasted to be “12 billion U.S. dollars by 2023” (Verstraeten, 2018; Statista, 2020). With the increased interest and booming sales, the board game industry is becoming a bigger business lately.

So far, some research on tabletop gaming focused on how board games can be utilized for health benefits and for education and teaching purposes (e.g. Altschul & Deary, 2020; Dell’Angela et al.,

2020; Muell et al., 2020). However, research directed on commercial modern board gaming is scarce. Although there is some research on motivation for playing board games or the contexts in which they are played (e.g. Kosa & Spronck, 2019; Rogerson & Gibbs, 2018), research on the factors that are contributing to the purchasing of commercial board games is non-existent, to our knowledge. With the increasing global interest in tabletop gaming for leisure, revealing these factors may be interesting to both board game publishing companies and researchers in games, leisure as well as consumer studies.

2 BACKGROUND

2.1 Demographics

Research shows that, in general, demographics play some role in purchasing intentions (Lian & Yen, 2014). However, the findings might differ depending on the context. Age, for instance, was found to be negatively associated with internet purchasing intentions in a concert ticket buying context, which means that younger people tend to carry out internet purchasing more (Akhter, 2003), whereas older people have increased purchase intentions towards touristic products or services through social media channels (Escobar-Rodrigoz, 2017). Although one can hypothesize that board gaming sales would be higher for younger people, who usually place higher importance on entertainment (San-Martin et al., 2015), one might also posit that older people have more purchase intentions with respect to board games because of their generally higher income levels. Therefore, we investigated the age–purchase intention relationship without any prior hypotheses.

Gender also affects purchase intentions as masculine and feminine identities may have different consumption choices (Costa, 1994). It was found that, for instance, visual cues in advertisements directly affect males more than females (Shaouf et al., 2016). Other studies confirm that gender affects purchase intentions (Davis et al., 2014). We do not yet have a clear understanding what exactly drives gamers to buy board games, and whether the factors that play a role are related to gender. In a board gaming context, studies found that a vast majority of gamers and designers are identified as male (Booth, 2019; Pobuda, 2018; Stonemaier Games, 2017). However, independent of the community gender descriptives, we do not know whether men are also the dominant group in purchase intentions.

Income is another demographic variable that is often found to be affecting purchase intentions. Income–purchase intentions relationship was supported in a variety of contexts such as buying

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of organic food, internet shopping and purchasing of sports equipment (Akhter, 2003; Casper, 2007; Wee et al., 2014). Income is also a contributor to in-app purchase intentions in mobile gaming contexts (Hsiao & Chen 2016). Similarly, we aimed to examine whether income has a positive effect on tabletop game purchase intentions.

Research has found that the evaluation process involved in purchasing differs as a person's prior experience in purchasing increases (Parasuraman, 1997). Therefore, experienced people might have different purchasing criteria than inexperienced people, which might result in different purchasing behavior in terms of intensity. In addition to the prior shopping experience, it was shown that people with prior gaming experience tend to have increased purchase intentions for gamified or game products (Bittner & Shipper, 2014; Kosa & Uysal, 2021). Similarly, seasoned tabletop gamers may have higher levels of purchase intentions. However, players who are new to the hobby may be more excited to buy new board games. Therefore we investigated the relationship between prior gaming experience and purchase intentions without hypothesizing in a certain direction.

2.2 Enjoyment, Play Frequency and Positive Word of Mouth

The relationship between enjoyment and purchase intentions is well-established in literature. This relationship was supported in multiple contexts such as purchasing of books, in-game items, gamified products, online retail shopping, and shopping in virtual worlds (Bittner & Shipper, 2014; Broekhuizen, 2006; Ernst, 2018; Guo & Barnes, 2011; Ramayah & Ignatius, 2005). Research shows that leisure activities that satisfy users' psychological needs tend to result in positive experiences (Gui et al., 2019). Games are known to be very good at satisfying these needs which were shown to be associated with increased enjoyment and purchase intention levels (Kosa & Uysal, 2020; Ryan et al., 2006). Also, enjoyment is a strong predictor of usage intentions for hedonic products (Van der Heijden, 2004; Kosa et al., 2020). If usage intentions are actualized, then the consumption (i.e. play frequency) increases which may arguably result in further purchase intentions. In addition to enjoyment and play frequency, research states that word of mouth plays a big role in purchase intentions as well. Word of mouth is generally taken into account by shoppers since it significantly increases trust and reduces perceived risk (Brucks 1985; Cheung et al., 2009). The relationship between positive word of mouth about products and purchase intentions was supported by a considerable amount of research, and the effect was shown to be similar across genders (Fan & Miao, 2012; Prendergast et al., 2010; Sohaib et al., 2018; Tsiotsou & Alexandris 2009). Therefore we included enjoyment, play frequency and positive word of mouth in our investigation.

2.3 Presence in Tabletop Gaming

Presence was previously defined as the "sense of transportation to somewhere / immersing oneself into a world and the feeling of being there physically, socially and realistically", where immersion can be interpreted as the objective characteristics of a system that aims to create a human experience of presence (Lombard & Ditton 1997; Skarbez et al., 2017). Presence is one of the dominant experiences in video games (Tamborini & Bowman, 2010). In fact, it is sometimes

presented as one of the main motivational factors (Ryan et al., 2006). Lately, it has been shown that board games also carry immersive qualities which consequently results in the player experience of presence (Farkas et al., 2020; Wake, 2019). Expanding on this, we aimed to investigate whether presence is also a contributing factor in board game purchase intentions.

3 METHOD

3.1 Procedure and Participants

We collected survey data via the boardgamegeek.com website. Boardgamegeek.com is a major website for board gaming hobbyists, where a vast amount of information on board games is collected. It includes forums for board gamers to discuss variety of subjects about board gaming. We posted our survey in the boardgamegeek forums and 867 gamers participated with full responses (with 708 males, 149 females and 10 other/preferred not to say). Average age was 39.12 (SD = 11.19). Part of the collected data was used in previous research on tabletop gaming motivations (Kosa & Spronck, 2019).

3.2 Materials

All latent constructs were measured on a 1 "strongly disagree" to 7 "strongly agree" Likert Scale.

3.2.1 Experience, Income and Play Frequency. Experience was measured by a single question of "For how many years have you been playing board games?" ($M = 3.16$, $SD = 1.70$). Income was operationalized by income bracket where we asked "How would you rate your income bracket?" rated from 1 (lower) to 5 (upper) ($M = 3.07$, $SD = 1.00$). Finally, for play frequency we asked "How many days on average per week do you play board games?" ($M = 1.82$, $SD = .79$).

3.2.2 Enjoyment. Enjoyment was measured by two questions (e.g. "I have fun when I am playing board games.") and had an internal reliability of $\alpha = .81$. It was adopted from video gaming context (Wang & Scheepers, 2012).

3.2.3 Positive Word of Mouth. Positive word of mouth was measured by 2 items (e.g. "I would encourage friends and relatives, who wish to play board games.") and the reliability of the scale was $\alpha = .79$. The scale was adopted from a study that was in the context of hedonic products and reworded to fit in to the board gaming context (Turel et al., 2010).

3.2.4 Presence. Presence was measured by the presence subscale of PENS that was initially developed for video gaming (Ryan et al., 2006). It was adapted to the board gaming context (e.g. "When playing board games, I feel transported to another time and place."). The internal reliability of the scale was $\alpha = .80$.

4 RESULTS

First, to test our measurement model, we conducted confirmatory factor analysis (CFA) with latent variables. We found that the model fit was good (RMSEA = 0.023, %90 CI [0.001, 0.040], CFI = 0.99, TLI = 0.99). The model fit indices are acceptable when RMSEA < .50, CFI > .95 and TLI > .95 (Byrne, 2010).

Table 1: Correlation Matrix

	1	2	3	4	5	6	7	8	9
1. Age	-								
2. Gender	-.08*	-							
3. Income	.19**	-.08*	-						
4. Play Frequency	.08*	.06	.02	-					
5. Prior Experience	.45**	-.09*	.11**	.02	-				
6. Presence	-.10**	.09**	-.06	.02	.05	-			
7. Enjoyment	-.09**	.05	.06	-.12**	-.08*	.04	-		
8. Positive Word of Mouth	-.12**	.08*	-.01	.08*	-.04	.12**	.51**	-	
9. Intention to Purchase	.05	-.04	.09**	.06	-.01	-.01	.49**	.42**	-
Mean	39.12	-	3.07	1.82	3.16	4.10	6.86	6.67	6.85
SD	11.19	-	1.00	.79	1.70	1.31	.36	.56	.43

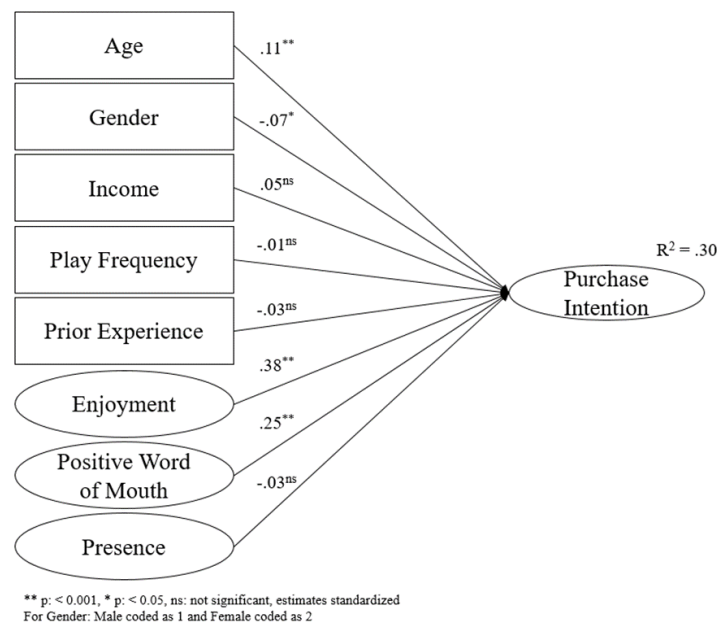


Figure 1: Multiple Regression Results

The correlation analyses showed that tabletop game purchase intentions were associated with income, enjoyment and positive word of mouth (Table 1). However, it was not found to be correlated with age, gender, play frequency, prior experience, or the experience of presence.

Next, we conducted multiple regression analyses to observe how the predictors explain variance in purchase intentions when all independent variables are included. The estimates showed that age, gender, enjoyment and positive word of mouth were associated with purchase intentions, whereas income, play frequency, prior experience and presence were not associated with it (Figure 1). Although zero-order correlations showed that the relationship between income and purchase intentions were significant, when all independent variables are considered in one model, income was significantly overshadowed by age and gender when it comes to

purchase intentions. For all analyses, we used the SPSS and AMOS software.

5 DISCUSSION

In this study, we investigated board game players' purchase intentions in an exploratory fashion. First, we found that age was associated with purchase intentions. In general, as people age they tend to purchase more tabletop games. One possible explanation for this can be that as people grow older they generally have more purchasing power. However, looking at the non-significant and a very low income-purchase intention estimate (.05), one can state that this explanation falls short since income was not associated at all with purchase intentions. Another explanation for this can be that as players get older they might simply be finding more leisure time. However, more nuanced approaches are needed -such as explicitly examining different age brackets- to draw better conclusions.

Although income was found to be correlated with intention to purchase, when all variables are included, this effect disappeared.

Gender was associated with purchase intentions, however the estimate was found to be rather low (-.07); therefore it can arguably be stated that the purchase intentions were similar for men and women. Although the industry is dominated by males according to several studies (e.g. Booth, 2019; Pobuda, 2018; Stonemaier Games, 2017; also in this study more than 80% of the participants were male), there was no meaningful difference in terms of purchase intentions across gender.

Prior experience in tabletop gaming was not found to be associated with game purchasing intentions. This implies that new hobbyists are similar to veteran gamers with respect to buying tabletop games. Similarly, purchase intentions of players were not affected by their playing frequencies. Although one might think that people who play more would buy more as well, our results did not support this. Therefore hobbyists who are not playing regularly tend to buy as much as the players who actively play. This finding is in line with the idea that board gaming hobby sometimes becomes a purchasing hobby rather than a playing hobby, as explained by some gamers in the hobby (Swatterxx, 2019). In addition, shopping can be a leisure activity on its own (Bäckström, 2011; Jansen-Verbeke, 1987).

Enjoyment and positive word of mouth was strongly associated with purchase intentions as expected. One of the main motivations for playing board games is related to the feelings of enjoyment, which was also projected onto the purchasing behavior. The more gamers enjoy playing games, the more they tend to buy. Also, receiving tabletop game recommendations from friends and family seems almost as important as one's own perceived enjoyment. This is in line with earlier work, which states that 71% of the board gamers are motivated to purchase through word of mouth (PrintNinja, 2020).

Previously, it was shown that presence predicts intentions to purchase in video games and virtual worlds (Animesh et al., 2011; Wohn, 2014). Although feelings of presence was also shown to be one of the appeals of board gaming lately (immersing oneself into the game world, narrative or challenge; Farkas et al., 2020), it was not found to be related to the purchase intention of players. One possible explanation could be that, lacking multimedia interaction, the feelings of presence is not sufficient for increasing tabletop game purchase intentions. Hybrid or augmented games, which have multimedia features (Kosa & Spronck, 2018; Rogerson et al., 2021), might be an interesting domain to test this. Another explanation could be that presence is a multifaceted concept and our measurement failed to capture tabletop game presence as a whole.

Alternatives models can be built with different variables. For instance, future studies can investigate potential moderation effects of demographic variables. Research shows that younger people have increased purchase intentions for gamified products and they find these more useful and enjoyable than older people (Bittner & Shipper, 2014). Similarly, moderating effects of other pertinent variables can be investigated between established relationships such as enjoyment-purchase intentions.

Lastly, more than 50% of the people buy their games from online stores and more than quarter of people buy from physical stores.

(Stonemaier Games, 2018). Differentiating between offline and online shopping might reveal new information as these might have different antecedents (e.g. Levin et al., 2005; Parasuraman et al., 2005). Moreover, similar to previous shopping related research in other domains, examining how shopping experiences affect purchase intentions can be another research direction worth pursuing (Sthapit et al., 2018).

5.1 Limitations

This was an exploratory study; therefore the variables investigated here do not form a comprehensive list of factors. There may be more associates to purchase intentions of board games. Qualitative-based approaches might reveal a more complete picture. The cross-sectional nature of the study also prevents any causal interpretations. Also, boardgamegeek.com is a heavily skewed sample, meaning that the study was possibly built on very active players. Therefore, it might have failed to reach more casual players. Our measure of play frequency was days per week, which might also have missed players who are playing less frequently and/or at irregular intervals.

We examined prior gaming experience; however, we did not investigate prior purchase experience. Future studies should consider prior purchase experience which might be a better predictor since prior purchase intention was shown to be affecting future purchase intentions (Ling et al., 2010).

Future studies can also examine more detailed measures, such as the theme, popularity, genre, how long to play, and ages of games that are purchased to get a deeper understanding on player intentions.

6 CONCLUSION

In this study, we examined tabletop game purchase intentions in an exploratory manner. To our knowledge, this is the first study which aimed to explore the topic. It is also a first step towards understanding the factors contributing to the purchase intentions of tabletop gamers. The findings presented here need to be replicated and further elaborated on. We found that enjoyment, positive word of mouth, age and gender plays a role in determining purchase intentions, whereas income, play frequency, prior gaming experience and feelings of presence do not. More nuanced future efforts will contribute to the understanding of how and why players intend to purchase tabletop games for leisure purposes.

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