

# The Effect of Web Advertising Visual Design on Online Purchase Intention: Insights on Generations Y and Z

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**Abstract.** Web advertising is a fast-growing industry in which brands fight for the attention of the most attractive consumers: Millennials and Centennials. This study aims to test the impact of Web Advertising Visual Design (WAVD) on the consumers' Online Purchase Intention (OPI) and, simultaneously, analyze if such influence differs across those generations. Participants ( $N = 318$ ) filled in an online questionnaire. Data revealed a direct impact of visual design on consumers' OPI as well as an indirect impact via Attitude Toward the Brand (ATB). Moreover, results showed that generations Y and Z do not differ significantly in their intentions, although Centennials exhibit a higher coefficient for the influence of WAVD on OPI. Regarding the theoretical implications, the results tend to confirm the Theory of Visual Rhetoric and partially confirm the Theory of Reasoned Action. Managerial implications and research limitations are also discussed.

**Keywords.** Web Advertising; Visual Design; Online Purchase Intention; Brand Attitude; Generation Y; Generation Z.

## 1 Introduction

Although several entertainment and media segments are facing a decline in growth rates, Internet advertising stands out with its continuous expanding market – specially as consumer demand for Internet access rises across the globe (PwC 2017). As high-speed mobile connections are becoming increasingly available – and affordable – to more and more consumers, it is vital for brands to better understand and to reach out to these connected customers in a personalized way. In such a

competitive market, it is essential that companies give a careful consideration to Web Advertising Visual Design (WAVD) in order to be able to accomplish their objectives within their target audience (Duffett 2015). Previous studies on visual design have focused on the influence that web advertising has on certain consumer reactions. Fewer have discussed the impact that WAVD could have on Online Purchase Intention (OPI) (Goodrich 2011; Shaouf et al 2016). In their research, Shaouf et al (2016) have considered an interesting potential impact of a direct effect of WAVD on OPI, complemented with an indirect effect, through a mediator influence of the consumer attitudinal responses to the visual design.

However, and despite the known disparities in effects between different groups of consumers (regarding gender or age), there seems to be a gap in the literature when trying to comprehend if this visual influence of an advertising differs across similar generations. Therefore, this study pretends to analyze the effects of WAVD on the consumer OPI and, furthermore, to understand if such stimuli can impact consumers from generations Y and Z differently. Researchers have studied the differences across the several generations that now co-exist in the market and have found several behavioral differences across them, which has been justifying a generational marketing target by brands (Higgins 1998; Williams and Page 2011). The Millennials (Generation Y) and the Centennials (Generation Z) are the most recent and allegedly similar ones regarding online behavior, as both generations could be considered as intrinsically digital natives. Despite their apparent resemblance, Generation Z studies are lacking, as this is the most recent generation and many of the Centennials are now entering the job market. Also, previous research has found that these two generations do not react in the same way to the same stimuli (e.g., Han et al 2018; Priporas et al 2017). Hence, one of the main purposes of this study is to understand if the influence that WAVD has on the consumer OPI differs between generations Y and Z.

## 2 Literature review

### 2.1 Cohort Theory: Generations Y and Z

The cohort theory states that people born within the same period – thus raised in the same socio-economic and technologic environments and exposed to the same stimuli – will present similar consumer related needs, attitudes and demands (Jackson et al 2011). Generation Y (also known as Millennials) was defined as the group of people born between 1977 and 1994 (Brosdahl and Carpenter 2011). Being exposed from the start to high acceptance for change and a significant respect for ethnic and cultural diversity, Millennials grew up in a time of immense and fast-paced change (Bolton et al 2013; Williams and Page 2011). The strong fever for fast results is characteristic of Millennials, as well as their lack of concern with the why of things (Himmel 2008). The combination of all these factors to which Generation Y was exposed to resulted in open-minded individuals, highly efficient in multi-tasking, with a fast-paced spirit and with a strong goal orientation, being

highly motivated to pursue their perceptions of success. As a summary, Williams and Page (2011) defined eight key values that best describe this generation: (1) choice; (2) customization; (3) scrutiny; (4) integrity; (5) collaboration; (6) speed; (7) entertainment; and (8) innovation. Next, Generation Z (also referred to as Tweens or Baby Boomers) is composed by people born after 1994 (Williams and Page 2011). They are experiencing an environment where global terrorism and war are constants, alongside with school violence and economic uncertainty (Williams et al 2010). These surrounding conditions are raising more conservative and traditional individuals than the previous generation, with a great value being given to security (Wellner 2000). On the other hand, they are also very savvy and high-tech people, accustomed to being constantly bombarded by digital notifications where everything, everywhere and everyone is only one click away. This combination resulted in global and diverse citizens, with four main characteristics, mentioned by Williams and Page (2011): (1) instant gratification; (2) success as guaranteed; (3) liberal social values; and (4) high appreciation for realness.

## ***2.2 Social Media, Attitudinal Responses, and Purchase Intention***

Both Generations Y and Z have image-driven individuals, people who make personal statements with their image (Himmel 2008). With a greater need for peer acceptance, individuals from both generations are virtually connected through social networks (Boyd and Ellison 2007). Several authors have begun to study the perceptions of online and of social media advertising (e.g., Delfanti and Arvidsson 2019; Duffett 2015). Online advertising can be measured through changes in the customers' attitudinal responses (Shaouf et al 2016). Attitude can be defined as an overall feeling or evaluation of a certain subject, that can be an individual, an idea or an object (Fishbein and Ajzen 1975). There are two important attitudes to consider regarding customer responses: Attitude Toward Advertising (ATA) and Attitude Toward Brand (ATB). ATA was defined by MacKenzie and Lutz (1989) as the response obtained in a consumer with a singular advertisement and it is proven to directly influence the consumers' purchase intention of the advertised product (Suh and Yi 2006). ATB was defined by Phelps and Hoy (1996) as a predisposition to respond in a certain manner (favorable or unfavorable) to a particular brand. Other authors have studied these relationships in an online environment, establishing an influence of the consumers' attitudes in the impact the site stimuli have on their purchase intention (e.g., Korgaonkar and Wolin 2002; Stevenson et al 2000). Also, OPI is the consumer's willingness to acquire a product or a service from an online retailer, through a website (Cyr 2008). The intention of purchasing something has been proven to be related with the action of purchasing that same thing (Pavlou and Fygenon 2006). Therefore, the OPI is also an important key performance indicator that can predict the actual purchase amount that will result from a certain online stimulus (Elwalda et al 2016; Shaouf et al 2016). The right combination of visual stimuli in an online communication strategy is an important balance that advertisers are eager to comprehend.

### 2.3 Web Advertising Visual Design (WAVD)

Visual Design deals with aesthetic beauty of the web advertisement and is shown to have a crucial role in its success (Cho 1999). Cyr (2008) showed that aesthetic beauty positively affects the consumer's trust, when concerning the visual design of the web advertisement. Therefore, in an online context, a carefully designed WAVD may be a differentiating factor among thousands of advertisements (Pieters et al 2010). From a variety of attention-grabbing tools (e.g., shapes, images, font type and size), color plays a vital role in capturing the attention and establishing a strong first-impression on potential consumers (Dreze and Zufryden 1997; Labrecque and Milne 2013). Some theories have arisen to explain this visual impact on consumer behavior. Scott (1994) proposed the theory of Visual Rhetoric (TVR), that states that visual elements (such as colors or images) can be used by an interested party as a message frame in an attempt to influence an audience. This TVR has been supporting models proposed by other authors to predict online consumer behaviors (e.g., Ganguly et al 2009; Shaouf et al 2016).

### 3 Model and Hypotheses

This paper aims to understand if there is any difference in the influence of WAVD on OPI when comparing generations Y and Z. For this purpose, a conceptual model was created in order to better assess the impact of WAVD on the consumer's attitudinal responses and OPI. Furthermore, the generation to which the consumer belongs to was used to moderate the relationship between the variables in this model. There are several models that try to predict behavioral intentions and their determinants. Accordingly, the Theory of Reasoned Action (TRA), proposed by Fishbein and Ajzen (1975), and its derivatives are widely accepted by theorists of several fields, including in online retailing (e.g., Elwalda et al 2016; Pavlou and Fyngenson 2006; Shaouf et al 2016). TRA posits that the most important explanatory element of behavior is behavioral intention, rather than the subject's attitude toward the object at which the behavior is directed. Other authors have suggested models in accordance with this theory, using cognitive judgments such as ATA or ATB as intermediary variables that explain the effect of advertisements on OPI (MacKenzie and Lutz 1989; Shimp 1981).

Nonetheless, some authors have discussed the limitations of the TRA, suggesting that the visual appeal is able to impact the consumer's behavioral intentions, even without attitude or other cognitive judgments' influence (Sundar and Noseworthy 2014). The TVR defends that visual online stimuli impact consumer behavior as a 'direct effect' (e.g., Kabadayi and Gupta 2011). In their research, Shaouf et al (2016) designed a new model that combined these two theories, complementing the direct effect of WAVD on OPI proposed by the TVR with its 'indirect effect', suggested by the TRA. The same reasoning was recreated in the model constructed in this paper, as following: (1) WAVD will influence OPI, based on the TVR (Scott 1994; Shaouf et al 2016); and (2) cognitive responses such as ATA and

ATB will impact OPI, as the TRA suggests (Fishbein and Ajzen 1975; Shaouf et al 2016). Thus, the first set of hypotheses addresses these direct and indirect relations that WAVD has on OPI:

*H1: WAVD will have a positive effect on a consumer's OPI;*

*H2: WAVD will positively influence a consumer's ATWA;*

*H3: ATWA will have a positive effect on a consumer's OPI;*

*H4: WAVD will positively affect a consumer's ATB;*

*H5: ATB will influence positively a consumer's OPI.*

Regarding the moderating effect of the consumers' generation, recent literature suggests that Generation Z can be more impervious to a single ad due to constant information exposure (Priporas et al 2017). Thus, a distinguishing visual design can easily stand out to the eyes of this generation. On the other hand, Generation Y is considered more impulsive than the older generations. However, this is also related with age characteristics since the same can be observed in Generation Z when comparing to Generation Y (e.g., Williams and Page 2011). Therefore, we suggest the following hypotheses:

*H6: Belonging to the younger Generation (Z) will emphasize the influence that WAVD has on OPI, when comparing to consumers belonging to Generation Y;*

*H7: Belonging to Generation Z will increase the impact that WAVD has on ATWA;*

*H8: Belonging to Generation Z will emphasize the effect that WAVD has on ATB.*

This research seeks to extend the existing theory proposed by Shaouf et al (2016). Therefore, a Structural Equation Model (SEM) was implemented due to its powerful casual-effect relations estimations between dependent and independent variables, while being simultaneously able to examine multiple dependence relationships. The proposed model was structured as presented in Figure 1.

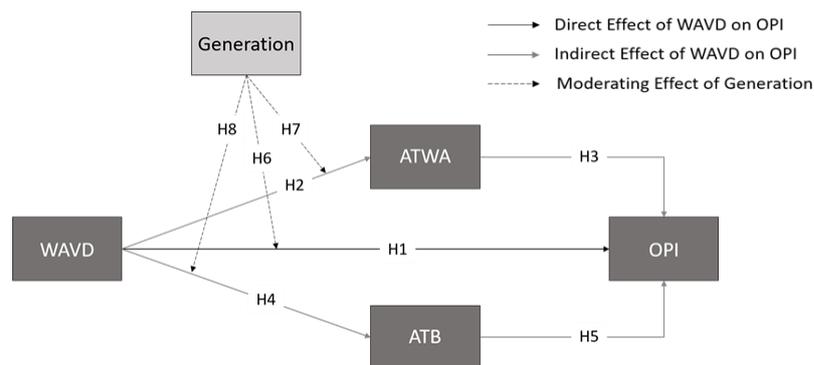


Fig. 1: Model configuration

## 4 Method

A web-based questionnaire was constructed using Qualtrics Surveys software. The questionnaire was divided into two parts. The first part intended to measure the general attitude the respondent had toward WAVD, without regarding any specific advertisement. It was also assessed how WAVD and the consumer's ATB and ATA could influence the OPI. The questions in this section consisted in statements to which respondents had to specify their level of agreement. The measurement scope was a five-points Likert scale, which ranged from "Strongly Disagree" (-2) to "Strongly Agree" (+2). This measurement scope has been used previously (e.g., Erkan and Evans 2016; Shaouf et al 2016). The second part of the questionnaire aimed to measure the same attitudes toward the Design and the OPI but considering a specific web ad. To ensure that participants were responding based on the same stimuli, an advertising was included in the survey. The measurement scope was a seven-points Likert scale. This approach has been used before (e.g., Quintal et al 2016). All scales were adapted from previous research (Wu et al 2008; Zhang 1996). The questionnaire was shared on social media (Facebook) using a snowball sampling technique which resulted in 517 initial responses. Data quality pre-processing and exploration methods were applied to clean the data from inconsistent information. This process resulted in the removal of 184 incomplete or misfit responses. Hence, 318 valid responses (62% female) were considered for the analysis (39% Gen Y; 61% Gen Z).

Next, statistical analyses were performed regarding reliability and validity assessment. Cronbach's Alpha and Composite Reliability (CR) should be higher than 0.7. To complement these measures and confirm Convergent Validity, the average value of the squared loadings of all indicators used in the construct scale should be higher than 0.5 – this coefficient is called the Average Variance Extracted (AVE). Furthermore, discriminant validity can assess stronger relations of a construct with its indicators, in comparison with other constructs. Therefore, and according to Fornell-Larcker criterium, the AVE must be greater than the correlation of a specific construct with all the other constructs of the model to the square. Variance Inflation Factors (VIF) were the method used in order to examine the collinearity among constructs. This test analyzes how much does the variance of an estimated construct increase due to multicollinearity issues. The values it computes are compared against a threshold of 3, where higher values mean that multicollinearity issues probably exist. The relationships among variables were estimated through standardized regression weights, or estimated path-coefficients, and present values ranging between -1 and 1. In order to guarantee the model's suitability, several fit indexes were calculated and compared to a threshold of 0.9 (good fit).

## 5 Results

Regarding the model's reliability and validity, all variables presented coefficients higher than the respective thresholds, except the AVE (ATWA) that was slightly

below 0.5. (.4816, which is relatively close to the threshold value). Therefore, considering that all other coefficients are comfortably coherent with the desired values, we can assume that the model is reliable and valid. All coefficients of the model's reliability measures are presented in Table 1.

	<i>Cronbach's Alpha</i>	<i>CR</i>	<i>AVE</i>	<i>Corr<sub>(a,b)</sub><sup>2</sup></i>	<i>VIF</i>
(Threshold)	(> .7)	(> .7)	(> .5)	(< AVE <sub>(a,b)</sub> <sup>2</sup> )	(< 3)
WAVD	.883	.9062	.5218	-	-
ATWA	-	-	.632	.002	1.252
ATB	-	-	.676	.017	1.332
OPI	-	-	.657	.161	1.114
ATWA	.790	.866	.4816	-	-
ATB	-	-	.702	.163	1.109
OPI	-	-	.506	.042	1.332
WAVD	-	-	-	-	1.219
ATB	.852	.87975	1.80437	-	-
OPI	-	-	.759	.100	1.272
WAVD	-	-	-	-	1.223
ATWA	-	-	-	-	1.045
OPI	.931	.9398	.7226	-	-
WAVD	-	-	-	-	1.015
ATWA	-	-	-	-	1.246
ATB	-	-	-	-	1.262

Table 1: Model reliability measures

Considering the model Fit Indexes, GFI was the only coefficient above the threshold of 0.9, with a value of .974. NFI, IFI and CFI all registered values very close to the required 0.9, with .888, .893 and .887 respectively. Despite being below the threshold, due to their proximity to the desired value they can still be considered reliable factors that show that this model is well suited. The AGFI coefficient, with a value of .613, was far below the required threshold of 0.9. On the other hand, the model's Chi-Square was 21.739 with 1 degree of freedom (and with a respective  $p < .001$ ), which restores the model's reliability.

As mentioned above, a structural equation modeling (SEM) was used to assess the relationships between the proposed factors. Results obtained via AMOS 24 are depicted in Figure 2 and include the following: (1) The model obtained suggests a positive impact of WAVD on OPI, in accordance with H1. The impact observed is significant ( $\beta = .657$ ;  $p < .001$ ); (2) Although WAVD is positively correlated with ATWA, this relation is not significant ( $\beta = .018$ ;  $p = .54$ ); (3) Although ATWA is positively correlated to OPI, the effect is not significant ( $\beta = .203$ ;  $p = .118$ ); (4) WAVD is positively correlated with ATB, thus supporting H4 ( $\beta = .077$ ;  $p < .05$ ); and (5) ATB has a positive effect on OPI ( $\beta = .428$ ;  $p < .001$ ).

To assess the moderating effect of generation in this model and to see if the average OPI registered was different between generations, the first test computed was an ANOVA. Results revealed that the difference between the average OPI in each generation is significant,  $F(1,316) = 20.982$ ,  $p < .001$ , suggesting that these generations are indeed influenced differently. Furthermore, a multi-group analysis

(MGA) was performed to incorporate the generational moderating factor in this model. This analysis compared the previous estimations for the subsamples of each generation and assessed if such differences were significant: (6) WAVD registered an impact on OPI of  $\beta = .497$  ( $p < .001$ ) for generation Y while for generation Z the effect was stronger, with  $\beta = .707$  ( $p < .001$ ), in accordance with our predictions. However, the MGA showed that the  $\chi^2$  difference between models is of 1.691 ( $p = .193$ ), thus not significant; (7) WAVD registered a null impact on ATWA considering only Generation Y and a  $\beta = .06$  when analyzing Generation Z. The MGA however reported that the  $\chi^2$  difference is only .003, which is not significant ( $p = .958$ ); and (8) WAVD has a positive effect on ATB for Generation Y with a  $\beta = .13$ , and a positive effect on Generation Z with  $\beta = .12$ . However, the MGA presented a  $\chi^2$  difference of .143, which is also not significant ( $p = .705$ ).

## 6 Discussion

According to Huang and Benyoucef (2017), marketers should develop design strategies to ensure that their online platforms address the needs and wants of their customers. The hypothesis that WAVD have an important direct effect in the consumer's OPI (H1) was strongly supported, but the same was not verified for their indirect effect. In fact, WAVD's influence on ATWA was rather weak, failing to support H2, and ATWA's impact on OPI was not found, thus refuting H3. However, WAVD's effect on ATB was significant, confirming H4, and the hypothesis that ATB has an influence on OPI (H5) was supported by the data as well.

Overall, this research was able to provide a clear evidence that a more elaborated visual design (e.g. colors, font type and size, shapes, graphical information) has a direct effect on the consumer, resulting in a higher willingness to purchase the product. Contrary to previous research (Shaouf et al 2016), this model established this influence without the intermediary effect of the consumer's attitudinal responses. Thus, we managed to contribute to solidifying the theory of Visual Rhetoric (Scott 1994) and providing relevant data for managers that a more carefully designed web advertisement immediately generates a higher purchase intention in consumers (particularly the ones who belong to generations Y and Z). This is certainly one of the key contributions of this research. On the other hand, the TRA was only partially confirmed by this model. We found that the visual aesthetics in advertising can positively influence the attitudinal response a consumer has towards a brand (ATB), which positively relates to the behavioral intention of purchasing a product from that brand. However, the same influence path flow was not verified for the attitudinal effect of an advertisement's perception. Therefore, the TRA was not supported when considering the impact an ATWA can have on OPI but it was verified regarding ATB and its positive effects. This also suggests that a poor design might damage the consumer's awareness of the brand more than the perception of that singular advertisement.

Regrettably, this model could not find a significant difference on the effects of WAVD on attitudinal responses or in OPI when comparing generations Y and Z.

However, regarding a direct effect of WAVD on OPI, Generation Z revealed a higher coefficient than Generation Y (although this tendency was not significant in the Multi Group Analysis). Therefore, this model is in accordance with previous literature, suggesting that these generations could indeed be influenced differently by the same stimuli. Furthermore, this study complements existing research by discarding the possibility that the visual aspects of an advertisement are one of such stimuli that can significantly induce these two different generations to have contrasting reactions.

Despite all these important conclusions and the statistic validations that support this model, this study was not exempt from limitations. The first recommendation for future research is to account for the influence that ATA has on ATB. It is shown that ATA can have a positive influence on ATB (Shaouf et al 2016; Shimp 1981). Additionally, previous studies have found an important role of gender in these variables (Shaouf et al 2016) and such effect was not included in this analysis. Also, research focused on aesthetics and web design could benefit from the use of eye-tracking tools, thus complementing self-reported survey measures (Hwang and Lee 2017; Pappas et al 2018). Furthermore, the Multi Group Analysis used to study the generational moderating effect was performed under 0 degrees of freedom. This resulted in biased coefficients for the model's suitability. Finally, recent results in a study by Ko (2018) also showed that social identity cannot arouse users' social and commercial desires online. Further results could test the implication of social identity theories among generations Y and Z.

## 7 Conclusion

Overall, this research contributes to e-commerce literature by studying how consumers respond to a WAVD and what influence it can have on their OPI. Additionally, this study also contributes to the TVR and to the TRA, expanding both theories' implications in an online environment, by establishing a direct (and an indirect effect, via ATB) of the visual aesthetics of online advertising on the consumer's OPI. Moreover, this research sought to analyze how consumers in generations Y and Z react to the same visual stimuli, regarding their willingness to buy the advertised product. Thus, the results presented above have important managerial implications and provide guidance to managers when developing marketing strategies to reach out to young consumers.

## Acknowledgments

This work was funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, LISBOA-01-0145-FEDER-022209), POR Lisboa (LISBOA-01-0145-FEDER-007722, LISBOA-01-0145-FEDER-022209) and POR Norte (LISBOA-01-0145-FEDER-022209). The authors declare that they have no conflict of interest. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Hel-

sinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

## References

- Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., ... Solnet, D. (2013). "Understanding Generation Y and their use of social media: A review and research agenda". *Journal of Service Management*, 24(3), 245–267.
- Boyd, D. and Ellison, N. B. (2007). "Social Network Sites: Definition, history, and scholarship". *Journal of Computer-Mediated Communication*, 13(2), 210–230.
- Brosdahl, D.J.C., and Carpenter, J.M., (2011). "Shopping orientations of US males: A generational cohort comparison." *Journal of Retailing and Consumer Services*, 18(6), 548–554.
- Cho, C. H. (1999). "How advertising works on the WWW: Modified elaboration likelihood model". *Journal of Current Issues and Research in Advertising*, 21(1), 33–50.
- Cyr, D. (2008). "Modeling web site design across cultures: Relationships to trust, satisfaction, and e-loyalty." *Journal of Management Information Systems*, 24(4), 47–72.
- Delfanti, A. and Arvidsson, A. (2019). *Introduction to Digital Media*. Malden, MA: Wiley Blackwell, 178 p.
- Dreze, X., and Zufryden, F. (1997). "Testing web site design and promotional content". *Journal of Advertising Research*, 37(2), 77–91.
- Duffett, R. G. (2015). "Facebook advertising's influence on intention-to-purchase and purchase amongst Millennials." *Internet Research*, 25(4), 498–526.
- Elwalda, A., Lü, K., and Ali, M. (2016). "Perceived derived attributes of online customer reviews." *Computers in Human Behavior*, 56, 306–319.
- Erkan, I., and Evans, C. (2016). "The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption." *Computers in Human Behavior*, 61, 47–55.
- Fishbein, M., and Ajzen, I. (1975). "Belief, attitude, intention and behavior: an introduction to theory and research." Reading, MA: Addison-Wesley.
- Ganguly, B., Dash, S. B., and Cyr, D. (2009). "Website characteristics, trust and purchase intention in online stores: An empirical study in the Indian context". *Journal of Information Science & Technology*, 6(2), 22–44.
- Goodrich, K. (2011). "Anarchy of effects? Exploring attention to online advertising and multiple outcomes". *Psychology & Marketing*, 28(4), 417–440.
- Han, H., Xu, H., and Chen, H. (2018). "Social commerce: A systematic review and data synthesis." *Electronic Commerce Research and Applications*, 30, 38–50.
- Higgins, K. T. (1998). "Generational marketing". *Marketing Management*, 7(3), 6–9.
- Himmel, B. (2008). "Different strokes for different generations." *Rental Product News*, 30(7), 42–46.
- Huang, Z., and Benyoucef, M. (2017). "The effects of social commerce design on consumer purchase decision-making: An empirical study." *Electronic Commerce Research and Applications*, 25, 40–58.
- Hwang, Y. M., and Lee, K. C. (2018). "Using an eye-tracking approach to explore gender differences in visual attention and shopping attitudes in an online shopping environment". *International Journal of Human-Computer Interaction*, 34(1), 15–24.
- Jackson, V., Stoel, L., and Brantley, A. (2011). "Mall attributes and shopping value: Differences by gender and generational cohort." *Journal of Retailing and Consumer Services*, 18(1), 1–9.
- Kabadayi, S., and Gupta, R. (2011). "Managing motives and design to influence web site revisits." *Journal of Research in Interactive Marketing*, 5(2/3), 153–169.
- Ko, H.-C. (2018). "Social desire or commercial desire? The factors driving social sharing and shopping intentions on social commerce platforms." *Electronic Commerce Research and Applications*, 28, 1–15.

- Korgaonkar, P., and Wolin, L. D. (2002). "Web usage, advertising, and shopping: Relationship patterns." *Internet Research*, 12(2), 191–204.
- Labrecque, L. I., and Milne, G. R. (2013). "To be or not to be different: Exploration of norms and benefits of color differentiation in the marketplace." *Marketing Letters*, 24(2), 165–176.
- MacKenzie, S. B., and Lutz, R. J. (1989). "An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context." *Journal of Marketing*, 53(2), 48–65.
- Pappas, I. O., Sharma, K., Mikalef, P., and Giannakos, M. N. (2018). "Visual aesthetics of e-commerce websites: An eye-tracking approach". Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS), Big Island, Hawaii.
- Pavlou, P. A., and Fyngenson, M. (2006). "Understanding and predicting electronic commerce adoption: an extension of the theory of planned behavior." *MIS Quarterly*, 30(1), 115–143.
- Phelps, J. E., and Hoy, M. G. (1996). "The Aad-Ab-PI relationship in children: The impact of brand familiarity and measurement timing." *Psychology & Marketing*, 13(1), 77–105.
- Pieters, R., Wedel, M., & Batra, R. (2010). The stopping power of advertising: Measures and effects of visual complexity. *Journal of Marketing*, 74(5), 48–60.
- Priporas, C.-V., Stylos, N., and Fotiadis, A. K. (2017). "Generation Z consumers' expectations of interactions in smart retailing: A future agenda." *Computers in Human Behavior*, 77, 374–381.
- PwC (2017). "Perspectives from the Global Entertainment and Media Outlook 2017–2021: Curtain up! User experience takes center stage." (www.pwc.com/outlook)
- Quintal, V., Phau, I., Sims, D., and Cheah, I. (2016). "Factors influencing generation Y's purchase intentions of prototypical versus me-too brands." *Journal of Retailing and Consumer Services*, 30, 175–183.
- Scott, L. M. (1994). "Images in advertising: The need for a theory of visual rhetoric." *Journal of Consumer Research*, 21(2), 252–273.
- Shaouf, A., Lü, K., and Li, X. (2016). "The effect of web advertising visual design on online purchase intention: An examination across gender." *Computers in Human Behavior*, 60, 622–634.
- Shimp, T. A. (1981). "Attitude toward the ad as a mediator of consumer brand choice." *Journal of Advertising*, 10(2), 9–48.
- Stevenson, J. S., Bruner, G. C., and Kumar, A. (2000). "Webpage background and viewer attitudes." *Journal of Advertising Research*, 40(1–2), 29–34.
- Suh, J.-C., and Yi, Y. (2006). "When brand attitudes affect the customer satisfaction-loyalty relation: The moderating role of product involvement." *Journal of Consumer Psychology*, 16(2), 145–155.
- Sundar, A., and Noseworthy, T. J. (2014). "Place the logo high or low? Using conceptual metaphors of power in packaging design." *Journal of Marketing*, 78(5), 138–151.
- Wellner, A. S. (2000). Generation Z. *American Demographics*, 22(9), 60–64.
- Williams, K. C., and Page, R. A. (2011). "Marketing to the generations." *Journal of Behavioral Studies in Business*, 5, 1–17.
- Williams, K. C., Page, R. A., Petrosky, A. R., and Hernandez, E. H. (2010). "Multi-generational marketing: Descriptions, characteristics, lifestyles, and attitudes." *The Journal of Applied Business and Economics*, 11(2), 21–36.
- Wu, S. I., Wei, P. L., and Chen, J. H. (2008). "Influential factors and relational structure of Internet banner advertising in the tourism industry." *Tourism Management*, 29(2), 221–236.
- Zhang, Y. (1996). "Responses to humorous advertising: The moderating effect of need for cognition." *Journal of Advertising*, 25(1), 15–32.