The X Factor in the Boardroom: Generation X Directors and their Impact on the Firm's Advertising Mix and its Efficiency

Abstract

The advertising industry has been going through an unprecedented shift away from traditional media towards an increasing reliance on digital media. As firms navigate this changing landscape, an underlying trend in corporate America is the increasing presence of Generation X directors on companies' boards of directors. This study investigates the intersection of the two phenomena and finds that the firms with a higher percentage of Generation X directors rely more heavily on digital marketing strategies and are associated with a more efficient use of advertising spending, resulting in higher firm performance in terms of profitability and firm value. The effect is not driven by other director attributes such as education, professional expertise, or gender, and is robust to instrumental variable estimation. The generational effect is also independent of the effect of director age, which is a related, yet separate variable that captures something fundamentally different and is controlled for in all models. Finally, we provide multiple contributions to academics and practitioners.

Keywords: advertising, digital advertising, generational theory, board of directors

1. Introduction

The effectiveness of the advertising mix in generating firm value is a topic that continues to generate interest among academics and practitioners (Gregg, Kalaoui, Maynes, & Schuler, 2016; Bayer, Srinivasan, Riedl, & Skiera 2020). The established tradition of research in the field suggests that advertising increases firm performance and value (Joshi & Hanssens, 2010; Sridhar, Narayanan, & Srinivasan, 2014; Sridhar, German, Kang, & Grewal, 2016). However, academics and practitioners are still debating the precise factors that influence the firm's advertising mix and its impact on firm performance. In this study, we shed additional light on this fundamental topic by focusing on the role of corporate board structure as a key driver of corporate behavior.

There are numerous studies in the corporate finance, accounting, and management literature examining the effect of board of directors (BOD) on firm policies and outcomes, but there is surprisingly little understanding of the role which this all-important corporate structure plays in influencing marketing strategy and its contribution to firm value (Whitler, et al., 2018). We build on upper echelons theory (Hambrick & Mason, 1984) which argues that the firm is a reflection of its upper echelons (executives and board members), as well as on prior research on corporate governance (Sun, Ding, & Price, 2020; Whitler & Puto, 2020) and argue that marketing strategy is ultimately driven by factors above the level of the CMO and the marketing department; specifically, the BOD determines the overall strategic direction of the firm and consequently of the marketing function, as it creates the structural configuration of marketing departments by appointing key personnel, sets resource constraints and engages in ongoing strategic managerial monitoring (Garcia-Meca, Garcia-Sanchez, & Martinez-Ferrero, 2015; Whitler & Puto, 2020). For example, initial research suggests that board members with

marketing functional expertise have been linked to firms achieving better sales growth (Whitler et al. 2018). Therefore, it appears that as the ultimate decision-making authority in the firm, the BOD protects the interests of shareholders and in effect, acts as a "supra-top management team (TMT)" as it influences the adoption and dissemination of firm-level strategies (Finkelstein, et al., 2009).

Within the larger BOD structure literature, board diversity (defined as the mix of heterogenous background characteristics of the board members) plays a pivotal role in influencing firm performance measures such as profit, firm value, and corporate social responsibility (e.g., Bernile, Bhagwat, & Yonker, 2018; Terjesen, Couto, & Francisco, 2016; Harjoto, Laksmana, & Lee, 2015). Even so, it has been widely under researched in the marketing literature, and only recently have marketing researchers called for more investigation of its impacts on marketing strategy setting and execution (Whitler, et al., 2018). The importance of board diversity alone, however, does not suggest whether it can drive specific marketing strategies such as advertising to affect firm performance metrics.

The current research addresses this gap by empirically evaluating the impact of a previously neglected board diversity characteristic: the generational identity of board members. Specifically, we focus on the impact of the presence of members of Generation X (or Gen Xers) (born 1961 – 1981) on corporate boards and their influence over the advertising mix and its impact on firm value and performance. Gen Xers make up an increasingly larger proportion of members of the BOD. Indeed, while Baby Boomers (born 1943 – 1960), still dominate most corporate boards, we posit that Gen Xers are increasingly more vocal and able to influence marketing and financial decision making as they help-set firm strategy through their increasing clout on the board. Gen Xers have steadily increased their presence on BODs from 5% to over

22% between 2007 and 2017, and as the inevitable retirement of Baby Boomers gains steam, Gen Xers will come to dominate the boards as well as corporate strategy. Prior research suggests that having an increasing presence of Gen Xers on the BOD boosts firm performance and value (He, Miletkov, and Staneva, 2023).

In the language of generational theory, there are two important mechanisms through which Gen Xers impact corporate strategy; first, members of that generational cohort are more technologically and media savvy than Baby Boomers (Mitchell, McLean and Turner 2005), as well as more entrepreneurial in their work orientation and willing to leverage technology to further their organization's mission (Beutell and Wittig-Berman 2008). Second, practitioner evidence and U.S. census data suggest that the largest consumer blocks in the U.S. market are composed of members of the Gen X and Millennial cohorts (Johnson, 2018) numbering 54 and 84 million respectively in 2018. Thus, it is likely that board members of those two cohorts will be better equipped to convert market insights about the external environment (consumers and the overall marketplace) into value-creating advantages for their firms (Day & Moorman, 2010) as they represent the same or an adjacent generational cohort as their primary consumers. Therefore, as the number of Gen Xers on the BOD increases, such insights are likely to lead to a sustainable corporate advantage as focusing on the needs of the market (e.g. market orientation) results in superior firm performance (Mu, 2015; Mussara & Morgan, 2020). Thus, we suggest that it is incumbent on marketing scholars to begin to understand this component of board diversity's impact on marketing strategy. In doing so, we address the following research questions: (1) does the increasing presence of Gen X directors on corporate boards impact the firm's advertising mix, and (2) does their presence influence firm value through advertising?

To accomplish these goals, we compile a comprehensive dataset of 4,658 annual firm-year observations across the period between 2010 and 2016. Notably, our dataset allows us to study the implications of board-level influence on marketing strategy by decomposing board diversity into several different characteristics at the individual and aggregate board levels. We capture the main factors previously shown to promote advertising spending at the firm and industry level and go beyond, by adding a novel dimension to the study of advertising spending at the board of directors' level of analysis.

We draw on generational and upper echelons theories (Howe and Strauss, 1991; Hambrick & Mason, 1984), and suggest that among other important board-level diversity factors, the presence of Generation X directors has an outsized impact on the variation in advertising spending across formats, as well as on its effectiveness in generating firm value. Indeed, we find that firms with a higher percentage of Generation X directors spend more on digital advertising, and in doing so outperform peer firms as their advertising investments are associated with higher firm value. Essentially, Gen X firms (i.e., firms with a higher percentage of Generation X directors) get more value out of each dollar invested in advertising. The relationship is not driven by other board member attributes such as age, ethnicity, professional experience, or gender. Furthermore, to rule out that having a younger board overall, or a board composed of members of diverse ages are not alternative explanations, we control for median director age and the standard deviation of directors' age. To mitigate the impact of unobservable factors that firms may use to set advertising budgets, we use both an instrumental variable approach and a propensity score matching estimation which does.

As such, this study makes the following contributions to theory and practice; First, we build on the work of Bayer et al. (2020) and split advertising spending into digital and traditional

forms and investigate their individual and total effects on firm value, conditional on board of directors' level and firm-level variables; by contrast most studies do not either distinguish between digital and traditional advertising or investigate board-level drivers of the variability behind setting the advertising mix. Doing so is important, as the two broad categories of advertising are not interchangeable and may yield differential results in terms of the effectiveness of the advertising mix, as we show in our results.

Second, we emphasize the role of the board of directors as a significant driver for guiding marketing policy in terms of driving advertising strategy, as well as influencing its performance outcome in terms of firm value. For example, we support the notion that the board exercises its fiduciary duties of advising and risk mitigation through providing strategic advice to management (Farrel and Hersch, 2005; Miletkov, Poulsen, & Wintoki, 2017), as well as through the creation of the structural configuration of marketing departments by resource prioritization (Garcia-Meca, Garcia-Sanchez, & Martinez-Ferrero, 2015). Furthermore, most prior research using board of directors' variables has assumed that their composition in terms of generational structure is irrelevant. Thus, to the best of our knowledge, we are the first to systematically study the effects of generational differences on marketing strategy setting.

Third, we examine short and long-term effects of advertising types by focusing on profitability, and Tobin's q, while past literature mostly focuses on a single measure of performance. In doing so, we compare the impact of the two advertising types and provide evidence consistent with differential impact on several metrics of firm performance. Finally, the sample size and composition allow a broad generalization of our findings. The use of a time-series, cross-sectional data enables deeper insights as it provides extensive external validity of our results.

2. Prior literature and hypotheses

Firms allocate their advertising expenditures across a proprietary and at the same time idiosyncratic mixture of digital and traditional advertising channels. Each of those broad types consists of several subtypes which in turn have differential impacts on marketing and financial bottom-line outcomes; digital advertising is dynamic, technology-enabled form of communication (Goldfarb, 2014), which is primarily tasked with tracking and targeting functions (Goldfarb and Tucker 2011) and usually tasked with delivering a strong contemporaneous sales response (Bayer et al., 2020). Traditional forms of advertising, on the other hand, may include print, radio, television, or outdoor display media, and is primarily used as a tool to impact brand building (Evans 2009; Goldfarb and Tucker 2010; Danaher and Dagger, 2013). Overall, past research suggests that both broad forms of advertising have positive impact on bottom line firm performance, through their influence on intermediary marketing outcomes such as brand loyalty, customer retention, premium pricing, and customer satisfaction (Dragan et al. 2013; De Vries et al. 2017).

As the advertising industry has been increasingly shifting towards using more digital formats, researchers have begun to investigate the impact of this form of advertising on sales and firm performance (Dinner et al. 2014). At the same time, very little is known regarding the appropriate mix of traditional and digital advertising, as well as how firms make decisions regarding the appropriate mix between the two. The limited literature on the topic so far has focused mostly on advertising's effects on outcome variables; for example, researchers have uncovered that the joint effects of both broad types of advertising are lower than their independent effects (Sridhar et al. 2016), as well as the existence of cross-cannibalization of traditional ads by digital alternatives (Sridhar and Sriram, 2015). Additionally, it appears that

digital advertising such as display and paid search, seems to outperform offline advertising in terms of its impact on firm performance and value (Bayer, et al., 2020). In summary, while prior research has uncovered multiple bottom-line effects of advertising, as well as started to investigate the impact of digital vs. traditional, it has been largely silent on firm and board-level factors influencing the firm value implications of the marketing mix (Whitler, Lee, Krause, & Morgan, 2020).

Boards of directors oversee strategy setting and function as the main decision-making bodies in a business (Zahra, 1993; García-Sánchez and Martínez-Ferrero, 2018; Spencer Stuart 2019). They are structured as the primary means for shareholders to exercise control over the firm (Warther 1994; Hirshleifer & Thakor, 1994) by aligning their interests with those of management (i.e., the CEO and other members of the TMT) through minimizing agency costs and ensuring that the firm pursues strategies that maximize shareholder value (Johnson, Dialy, & Ellstrand, 1996). Ultimately, boards have a fiduciary obligation to protect the interests of shareholders by directing firm decision-making (Johnson, Daily, & Ellstrand, 1996). According to the American Bar Association (2007), boards are responsible for *"approving corporate policy and strategic goals and taking specific actions such as evaluating and selecting top management, approving major expenditures, and acquiring and disposing of material assets."* Specifically, instrumental to achieving the above goals is the approval of firm-level strategic choices and resource allocation such as hiring of the CEO, identifying executive compensation levels, and firm governance (Whitler & Puto, 2020).

How do boards influence corporate strategy setting and implementation? The literature seems to agree that the process depends largely on who sits on the board and their characteristics (i.e. board diversity) (Krause, Semadeni, & Cannella Jr., 2014). Board diversity is the subject of

extensive research in the corporate governance literature which has mostly followed two general paths of investigation; the first one has focused on observable dimensions of board members, such as gender, ethnicity, age, and tenure in the firm. The second includes non-directly observable characteristics such as work experience, background, and skillsets (Erhardt et al., 2003; Janani et al., 2022). Overall, board diversity has been linked to several firm performance indicators such as profitability (Campbell & Minguez-Vera, 2008) and corporate social responsibility (Rao & Tilt, 2016). Thus, it appears that key attributes associated with individual board members influence overall board strategy (Carpenter, Geletkanycz, & Sanders, 2004). Additionally, upper echelons theory suggests that the individual characteristics of board members also tend to manifest through firm-level actions, decisions, and eventually, outcomes (Hambrick & Mason, 1984; Whitler et al., 2019). Therefore, *who* is on the board of directors largely shapes the boards' strategic approach and guides managements' business unit-level decisions (Whitler & Puto, 2020).

We follow this line of reasoning and focus on a key dimension of board of directors' diversity which has been largely overlooked: generational affiliation. Generational theorists (Howe and Strauss 1991; Twenge et al., 2010) suggest that a "…*generation is a cohort-group whose length approximates the span of a phase of life and whose boundaries are fixed by peer personality…*" Furthermore, a generation is a unique variable as it offers a safer basis for personality generalization than such other social categories as sex, race, religion, or age (Howe and Strauss 2007). As such, we focus on an ongoing shift occurring in the workforce: the retirement of the Baby Boomer generation and their continual replacement by members of generation X. Further generational shifts are also occurring, as millennials are making their impact on the workforce, however, they are relatively unrepresented on company boards. Model-

free evidence from our sample suggests that at least 65% of S&P 1500 firms have at least one Gen X member and roughly 30% have two or more.

In the context of advertising budgeting and investments, therefore, we posit that generational differences account for an increasing proportion of board diversity considerations, and their downstream impact may affect firm performance. As boards of directors' membership becomes increasingly more represented by Gen Xers, their characteristics help determine the type of advice and focus they provide to operational functions (Adams and Ferreira, 2009). In the language of generational theory, a value enhancing attribute of a cohort (i.e., a generation) is likely to be associated with early life experiences that helped shape their personalities "…a set of collective behavioral traits and attitudes that manifest themselves throughout a generation's lifecycle trajectory" (Howe and Strauss, 1991, p. 32) - of each distinct generation. One overarching factor affecting Gen Xers' personalities is the advancement of the knowledge economy and the unprecedented technological innovation since the late 1980s. Powell and Snellman (2004) empirically document the tremendous growth in knowledge-intensive economic activity over this time period and define the knowledge economy as "…*production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence.*" This period coincided with the formative years of Gen Xers and significantly influenced their perception of and willingness to embrace technological innovations. Therefore, we posit that Gen Xers will be especially valuable in terms of championing new and less traditional forms of technological innovation in the marketing domain specifically.

2.1. Generational differences of board members and advertising spending efficiency

As multiple board diversity measures have been demonstrated to impact marketing and as well as financial performance metrics (Campbell & Minguez-Vera, 2008; Whitler et al., 2018), we suggest that generational affiliation of board members would manifest in a similar manner. Boards are becoming populated by Gen Xers and as such, their presence should transfer onto managers through the mechanisms of monitoring, engagement, and direction. We suggest that in an increasingly more complicated advertising field, their influence would result in a better marketing impact on firm performance metrics compared to Baby Boomer dominated boards.

Upper echelons theory suggests that individual attributes of board members can manifest through firm-level behavior, decisions, and outcomes (Hambrick & Mason, 1984). For example, board members with marketing functional expertise have been linked to firms achieving better sales growth (Whitler et al., 2018). Therefore, it appears that the board makeup will impact its priorities and shape its overall strategic approach (Whitler & Puto 2020). It follows then, that the boards' strategic choices will then be passed onto the top management team in board meetings, as well as through the compensation measurement systems and the establishment and modification of performance targets. In particular, the BOD influences the TMT's approach to marketing strategy through monitoring, engagement, and direction (Whitler & Puto, 2020). As marketing represents a major focus of company shareholders, and the board of directors has been tasked with safeguarding and promoting their interests, it has a vested interest in directing and optimizing marketing strategy (Tuggle, Schnatterly, & Johnson, 2010). Consequently, as the prevalence of Gen Xer directors on the BOD increases, it is likely that their beliefs and values about marketing strategy and advertising, will become an increasingly important consideration for the TMT in designing and implementing the advertising strategies for couple of reasons. First, gen Xers have "come of age" at the time of an incredible growth of the knowledge

economy and technological innovation (Powell and Snellman 2004) and they are likely to be more accepting of innovation and look for ways to leverage technology in multiple domains for the benefit of their organization as well as their own career advancement (Beutell & Wittig-Berman 2008). Second, the largest consumer group in the U.S. consists of members of the Gen X and Millennial generational cohorts (Johnson, 2018). As such, an increasing proportion of Gen Xers on boards of directors is likely to be better able to connect with their customer base as they represent closer generational cohorts than Baby Boomers (Powell & Snellman (2004).

Therefore, we suggest that Gen Xers' influence on advertising spending is likely to manifest through their ability to make sense of and employ technological innovations, as well as their closer generational connection and understanding of their target customers on average. Thus, we expect that for each dollar invested in advertising, firms whose boards feature increasingly higher proportion of Gen Xers to have improved firm performance.

H1: Firms with a higher percentage of Gen X directors on the board will be associated with more value-enhancing advertising spending.

2.2. Generational differences of board members and digital vs. traditional advertising

Not only does advertising overall increase firm value (Joshi & Hanssens, 2010; Colicev et al., 2018), both traditional and digital advertising also provide significant positive return on investment across industries (Agarwal, Hosanagar, and Smith, 2011; Agarwal, Athey, and Yang, 2009). The need to strategically integrate across digital and traditional formats has become a major challenge for practitioners as despite the overall positive effect of each format, each vehicle decreases the positive impact of the other (Sridhar et al., 2016). At the same time, firms

have struggled to integrate online advertising into their advertising mix (Dannaher & Dagger, 2013) and as such it is increasingly difficult to build a cohesive marketing message narrative across media vehicles (Lin, Venkataraman, & Jap 2013). For example, prior research has uncovered a significant sub additive effect of advertising across media formats (Sridhar et al., 2016) likely due to (1) their different intended purposes (e.g. promotional vs. brand building) and the resulting message confusion for consumers (Voorveld, Neijens, and Smit 2011), or (2) the pure task complexity of thematic and overall integration across formats (Belch & Belch, 2015).

Evidence suggests that digital advertising can increase both online and offline sales through increased website traffic, brand search queries (Fulgoni & Morn, 2009) and furthermore can have a persistent positive effect on sales over time (Lewis & Reiley 2013). We suggest that generational differences have an impact in influencing firms' advertising strategies as boards with increasing presence of Gen Xer directors are likely to be better able to understand and support the use of increasingly more sophisticated digital advertising strategies, than their Baby Boomer colleagues. Therefore, as marketing strategy and advertising are the primary means of communicating with customers, we argue that boards of directors featuring an increasing presence of Gen Xer directors are more likely to support less traditional advertising investments in influencing the setting of the overall advertising mix across formats and focus increasingly on digital advertising.

H2: Firms with a higher percentage of Gen X directors on the board will exhibit an advertising mix leaning more heavily towards digital outlets.

3. Data and Variables

3.1. Data sources

The data for this study is sourced from several different databases. Advertising data is collected from the Kantar database, which offers comprehensive insights on advertising expenditures across a multitude of media outlets. This granularity allows us to distinguish between the firm's digital advertising efforts, including online display and paid search expenditures, and their spending on traditional advertising which includes offline mediums like television, radio, magazines, newspapers, outdoor, and syndication. Advertising data spans the years from 2010 to 2016. Data on director characteristics is collected from the Institutional Shareholder Services (ISS) database, previously known as RiskMetrics. The ISS dataset starts in 1996 and provides information on director attributes, such as age, gender, ethnicity, tenure, directorships held, and independence. We undertook an exhaustive data cleaning process and matching procedure to be able to trace directors across the years, which allows us to utilize the instrumental variables approach described in section 4. We also collect information on the characteristics of the firm's top executive officers from ExecuComp. Lastly, we acquire firm-level financial data from Compustat North America Annual files, stock price information from CRSP, and business segment data from the Compustat Business Segments files. Our sample is limited to U.S. industrial firms with sales exceeding one million dollars. To address potential outliers or data inaccuracies, we've winsorized all continuous financial metrics, capping them at the top and, when applicable, the bottom one percent. This results in a dataset with 4,658 distinct entries covering the years 2010 to 2016.

Table 1. Measures of key variables

Board characteristics:	
Fraction GenX Dir	Number of Generation X directors/board size. Director belongs to Generation X if born between 1961 and 1981.
Fraction Female Dir	Number of Female directors/board size.

Fraction Non-white Dir	Number of Non-white directors/board size.
Board size	Total number of directors on the board.
Fraction Independent Dir	Number of independent directors/board size.
Busy Board	Number of independent directors who serve on outside boards/board size.
Median Dir Age	The median age of all directors on the board.
St. Deviation Dir Age	The standard deviation of the age of all directors on the board.
Median Dir Tenure	The median tenure of all directors on the board.

CEO characteristics:

CEO_age	The age of the CEO.
CEO_female dummy	1 if the CEO is female, 0 otherwise.
CEO_chairman dummy	1 if CEO is also the Chairman of the board, 0 otherwise.

Financial characteristics:

Tobin's Q	The ratio of (total assets (at) – book value of equity + market value of equity) to total assests (at). Book value of equity is obtained as total assets (at) – long-term debt (dltt) – preferred stock (pstkl) + deferred taxes and investment tax credit (txditc). Market value of equity is (prcc_f)*(csho).
Sales	The natural logarithm of total revenue (revt)
ROA	Operating income before depreciation (oibdp) to assets (at).
Firm Age	The number of years since the firm first appears in Compustat.
Size	The natural logarithm of number of employees (emp)
Leverage	The sum of long-term debt (dltt) plus short-term debt (dlc), divided by assets (at).
Tangibility	Property, plant, and equipment (ppent) to assets (at).
R&D	Research and development expense (xrd) divided by sales (sale). Set to zero if data is missing.

R&D dummy	1 if research and development expense (xrd) is nonmissing, 0 otherwise.
Diversification HHI	Herfindahl-Hirschman Index of the firm's business segment sales, multiplied by -1.
Advertising variables:	
Total Adv	ln(1+total kantar advertising expense/total assets).
Dig Adv	ln(1+(paid search+online display)/total assets).
Trad Adv	ln(1+traditional advertising expense/total assets).
Digital%	(paid search+online display)/ total kantar advertising expense

3.2. Dependent variables

In testing our first hypothesis, we follow prior research and utilize *Tobin's Q* as our main measure of firm value. In robustness tests, we also use return-on-assets (*ROA*) to capture the firm's operating performance. All variables used in the empirical analysis in this study are described in Appendix A.

To gauge whether the presence of Generation X directors on the board is associated with different choice of advertising mix, we use the advertising metrics derived from the Kantar database as dependent variables. The total advertising expenditure is denoted as *Total Adv*, and is measured as the natural logarithm of the aggregate of total Kantar advertising expenses normalized by total assets. We then decompose total advertising into two categories: digital advertising, (*Dig Adv***)**, which encompasses both paid search and online display advertising expenses, and traditional advertising (*Trad Adv*). An essential measure in our research is *Digital%*, which captures the proportion of the total advertising expenditure that the firm dedicates to digital advertising.

3.3. Board of directors' variables

The focus of this study is to explore how the composition of a firm's board of directors influences its advertising strategies and their effectiveness. As such, our main independent variable of interest is related to the characteristics of the board members. We focus on the generational composition of the board and define the different adult generations in the United States today following Howe and Strauss (2007) as: Millennials (born 1982 – 2005), Generation X (born 1961 – 1981), Baby Boomers (born 1943 – 1960), and the Silent Generation (born 1925 – 1942). Corporate boards are dominated by the Baby Boomers in our sample, but they are slowing being replaced by Generation X, who are between the ages of 35 and 55 as of the end of our sample period. Millennials and the Silent generation are too young and too old, respectively, to have any significant board presence. We measure the presence of Gen X directors with the fraction of Generation X directors serving each year (*Fraction GenX Dir*).

As shown in Table 2, boards with Gen X directors differ from those without on several dimensions that might also be correlated with advertising policies. Therefore, we incorporate controls for various other board attributes in all empirical specifications. Specifically, we account for the gender and ethnic diversity through *Fraction Female Dir* and *Fraction Non-white Dir*, representing the proportion of female and non-white directors, respectively. We also consider the total number of directors on the board (*Board size*), the proportion of independent directors (*Fraction Independent Dir*), and those who serve on multiple boards (*Busy Board*), as well as the tenure of directors on the board (*Median Dir Tenure*). In this study, it is particularly important to also account for the median age of directors (*Median Dir Age*) and the age variation among them (*St. Deviation Dir Age*). By doing so, we can differentiate the generational influence from any potential effects attributed to the board's age.

3.4. Control variables

In addition to the board-level characteristics, we incorporate several other variables to control for factors that have been previously shown to affect firm value and performance. Those include: the number of years since the firm was listed in Compustat (*Firm Age*) the natural logarithm of the number of employees (*Size*), the debt to assets ratio (*Leverage*), the ratio of property, plant, and equipment to assets (*Tangibility*), and the ratio of research and development expense to sales (*R&D*). For firms with missing research and development data, we assign zero as the *R&D* value but add the *R&D dummy* metric, which equals one for firms with nonmissing R&D data and zero otherwise. Finally, to account for firm diversification, we employ the *Diversification HHI* variable, which is the Herfindahl-Hirschman Index of the firm's business segment sales.

We also control for industry fixed effects and allow those to vary by year to capture any differences in the dependent variables across firms operating in different industries. We define industries based on Fama and French 49 industry specifications. Recognizing that board data may reflect executive influence, we incorporate CEO-specific metrics. These comprise *CEO_age* for the CEO's age, *CEO_female* to denote a female CEO, and *CEO_chairman* to highlight instances where the CEO also serves as the board's Chairman. CEO generational influences are factored in as well. In robustness tests, we also account for the presence of a chief marketing officer.

Table 2. Summary Statistics

	1	2	3	4	5	6
	# obs	**Mean**	**St. Dev**	**Min**	**Median**	**Max**
Variable:						
Total Adv	4,659	0.86	1.28	0.00	0.14	7.77
Dig Adv	4,659	0.33	0.69	0.00	0.03	5.45
Trad Adv	4,659	0.73	1.21	0.00	0.06	7.75
Digital%	4,659	0.38	0.40	0.00	0.16	1.00
MB	4,654	2.00	1.20	0.52	1.62	10.15
Sales	4,659	8.09	1.46	3.82	7.98	13.09
ROA	4,650	0.16	0.09	-0.68	0.14	0.62

Fraction Gen X Dir	4,659	0.12	0.13	0.00	0.10	0.89
Fraction Female Dir	4,659	0.15	0.10	0.00	0.14	0.75
Fraction Non-white Dir	4,659	0.10	0.10	0.00	0.09	0.82
Board size	4,659	9.44	2.05	4.00	9.00	20.00
Fraction Independent Dir	4,659	0.80	0.10	0.00	0.83	1.00
Busy Board	4,659	0.22	0.17	0.00	0.20	0.89
Median Dir Age	4,659	62.81	4.36	45.00	63.00	79.00
St. Deviation Dir Age	4,659	7.51	2.30	0.89	7.16	17.43
Median Dir Tenure	4,659	8.23	3.91	0.00	8.00	32.50
CEO_age	4,659	56.64	6.89	29.00	56.00	96.00
CEO_female dummy	4,659	0.04	0.20	0.00	0.00	1.00
CEO_chairman dummy	4,659	0.54	0.50	0.00	1.00	1.00
Firm Age	4,659	33.67	18.64	3.00	28.00	67.00
Size	4,659	2.22	1.49	-3.96	2.21	7.70
Leverage	4,659	0.24	0.18	0.00	0.23	1.00
Tangibility	4,659	0.26	0.23	0.00	0.17	0.95
R&D	4,659	0.04	0.08	0.00	0.00	1.47
R&D dummy	4,659	0.63	0.48	0.00	1.00	1.00
Diversification HHI	4,659	-0.81	0.24	-1.00	-0.97	-0.12

5. Results

5.2. Generation X directors and the firm's advertising mix

In this section, we test our main hypothesis that Generation X directors – whose formative years coincided with the rise of the Internet era and the associated expansion of communication and commerce via the Internet – will be more willing to embrace digital forms of advertising.

Table 3. Gen X vs non-Gen X firms

Sample:	**1** **Gen X firms**	**2** **Non-Gen X firms**	**3** **Difference**
Total Adv	0.934	0.754	0.179***
Dig Adv	0.402	0.226	0.176***
Trad Adv	0.770	0.671	0.099***
Digital%	0.411	0.326	0.085***
Tobin's Q	2.080	1.878	0.203***
ROA	0.155	0.157	-0.002
Has CMO	0.146	0.148	-0.002
Has Gen X CMO	0.077	0.061	0.017**
Fraction Female Dir	0.157	0.143	0.014***
Fraction Non-white Dir	0.101	0.089	0.012***

Board size	9.523	9.313	0.21***
Fraction Independent Dir	0.804	0.804	-0.0001
Busy Board	0.212	0.230	-0.018***
Median Dir Age	61.736	64.417	-2.682***
St. Deviation Dir Age	8.342	6.260	2.081***
Median Dir Tenure	7.694	9.039	-1.346***
CEO_age	55.061	58.994	-3.933***
CEO_female dummy	0.047	0.030	0.017***
CEO_chairman dummy	0.501	0.589	-0.087***
Firm Age	32.582	35.311	-2.729***
Size	8.038	8.180	-0.141***
Leverage	0.242	0.237	0.005
Tangibility	0.248	0.279	-0.031***
R&D	0.042	0.032	0.01***
R&D dummy	0.656	0.598	0.058***
Diversification HHI	-0.816	-0.794	-0.022***
# of Observations	2,794	1,864	

Table 2 presents univariate tests comparing the advertising mix of firms with Generation X directors (Gen X firms) to the advertising mix of firms without such directors (Non-Gen X firms). In general, Gen X firms have significantly larger advertising budgets for both digital and traditional forms of advertising. More importantly, and consistent with our main hypothesis, Gen X firms spend a significantly larger fraction of their total advertising budget on digital forms of advertising. These univariate results are, however, subject to serious endogeneity concerns. Therefore, in the subsequent empirical analyses we use multivariate regressions with various robustness tests to investigate the true impact of Generation X directors on the firm's advertising mix. Specifically, we estimate the following regression model:

$$ADVMIX_{i,\,t+1} = \alpha + \beta_1 \times Fraction\ Gen\ X\ Directors_{i,\,t} + \beta \times X_{i,\,t} + \gamma_j + d_t + \varepsilon_{i,\,t} \quad (1)$$

where the dependent variable, *ADVMIX*, captures different aspects of the firm's advertising mix and the key variable of interest is *Fraction Gen X Directors* that represents the fraction of Gen X directors on the board of firm *i* in year *t*. X is a vector of control variables comprised of CEO,

board, financial and other firm-level characteristics (all variables are described in Appendix A). Equation (1) also includes industry (γ_j) and year fixed effects (d_t), where industries are defined based on Fama and French's 49 industry classification. To alleviate the potential reverse causality concerns, we estimate all regressions with lagged independent variables. Standard errors are clustered at the firm level.

One of the key challenges in our empirical analysis is disentangling the effect of directors' generational identity from the effect of other director characteristics including sex, ethnicity, tenure, and of course age. We include controls for the fraction of female directors, non-white directors, and busy directors on the board as well the median director tenure. Following He, Miletkov, and Staneva (2023), we address the concern that our results could be driven by firms simply having younger directors or an age-diverse board by controlling for the median director age on the board as well as for the standard deviation of directors' age. We also include CEO generation fixed effects to ensure that our results are not picking up a CEO generation effect as opposed to a board of directors' generation effect.

Consistent with the univariate analysis, the results presented in specification 1 of Table 3 suggest that firms with a higher fraction of Generation X directors on the board spend significantly more money on advertising related activities. Furthermore, specifications 2, 3, and 4 illustrate that these larger advertising budgets are associated with increased spending on digital forms of advertising and not with increased spending on traditional forms of advertising which are actually lower for firms with higher fraction of Generation X directors.

While the multivariate regressions in Table 3 control for an extensive list of variables that are potentially related to both the firm's board structure and its advertising mix, it is possible that our results are still subject to an omitted variable or simultaneity bias as well as reverse causality.

To further alleviate these endogeneity concerns, we perform instrumental variables (IV) analysis and report the results of the two-stage-least-squares (2SLS) regressions in Table 4.[1]

A valid instrumental variable should be correlated with the fraction of Generation X directors on the firm's board but should not have a direct/independent effect on the firm's advertising mix. Adams and Ferreira (2009), who examine the effect of board gender diversity on firm performance, argue that the fraction of male directors with board connections to female directors could be a valid instrument for their main variable of interest – the fraction of females on the board. In justifying the validity of their instrument, the authors point out that one of the main reasons why we do not find more women on corporate boardrooms is their lack of connections.

The above argument can be applied to Gen X directors as well. Over our sample period, the social networks that link directors are comprised mostly of Baby Boomers, a group that Gen X directors had few opportunities to form connections with. This is simply due to the fact that Gen Xers grew up, went to school, and entered the workforce alongside other Gen Xers. Thus, just like females find it difficult to enter a field dominated by males, Gen Xers face the same impediments in entering a field dominated by people belonging to a different generation.

Following Adams and Ferreira (2009), we argue that the more connected non-Gen X directors on a certain board are to Gen X directors, the higher the presence of Gen Xers should be on that board. In measuring the connection of non-Gen X directors to Gen X directors, we use the fact that directors often serve on multiple boards within our sample. As described in Appendix B, we have established a unique identifier for each director in the ISS database starting in 1996, and therefore, have information not only on their current board assignments, but can also examine any board connections that occurred in the past.

[1] The following discussion of the 2SLS-IV estimation follows closely He, Miletkov, and Staneva (2023) as we rely on the same set of instruments for the fraction of Generation X directors on the board.

We define our first instrumental variable as the fraction of non-Gen X directors on the board who serve, or have served in the past, with a Gen X director on another board. This variable should be positively correlated with the endogenous variable, and therefore, satisfies the relevance condition of an instrumental variable. We also consider the exclusion restriction, requiring that an instrumental variable be uncorrelated with the firm's advertising mix, except through explanatory variables already included in the regression. As our specification controls for an extensive list of board, CEO, and firm level observable factors, as well as industry fixed effects, we argue that the exclusion restriction is also satisfied.

Regarding our second instrumental variable, we argue that the average number of Gen X directors in the firm's headquarters (HQ) state (measured on annual basis and excluding the firm itself) is another valid instrument that satisfies both the relevance and the exclusion conditions. The reason is that a firm operating in a geographical area with a higher presence of Gen Xers on corporate boards is more likely to have board members of that generation, as there will be a greater supply of such directors. Geographical proximity is a factor that has been shown to affect the pool of eligible board candidates (Knyazeva, Knyazeva, and Masulis, 2013). While this instrument could be correlated with other board- and firm-level characteristics that are already included in our main regression specification, it is unlikely that it will have an independent/direct effect on the focal firm's advertising mix.

Table 4 presents the results of the 2SLS-IV estimation utilizing our two instruments. Column (1) illustrates that the relevance condition for the instruments is satisfied as both are positively and significantly related to the faction of Generation X directors on the board. The second stage results, presented in column (2), suggest that after instrumenting, the predicted value of our main variable of interest – faction of Generation X directors – has no significant effect on

the firm's overall advertising spending. This is not necessarily surprising as our main hypothesis is not about the effect of Generation X directors on total advertising but on the advertising mix – digital versus traditional – used by companies. To test this specific hypothesis, we re-estimate the first stage regression while controlling for the firm's total advertising budget in column (3), and use the firm's spending on digital advertising, traditional advertising, and the ratio of digital advertising to total advertising as dependent variables in the second stage regressions reported in columns (4), (5) and (6) respectively. The results provide strong support for the argument that firms with Generation X directors rely significantly more on digital forms of advertising.

While the 2SLS-IV estimation alleviates the endogeneity concerns, it relies on the assumption that at least one of our instrumental variables is truly exogenous, an assumption that we cannot directly test. Therefore, in the next part of our analysis we use propensity score matching as an alternative method to address the concern that our results are simply driven by the fact that firms with Generation X directors are fundamentally different from firms without such directors, and that those difference are ultimately responsible for the variations in the firms' marketing mix.

The results from the propensity score matching are presented in Table 5. In column (1), we use our full sample to estimate a logit regression where the dependent variable takes the value of one if the firm has at least one Generation X director, and zero otherwise. As expected, many of our covariates are significantly related to the likelihood of having a Generation X director on the board. In column (2), we re-estimate the same logit regression but restrict the sample to the propensity score matched firms only. The results indicate that the matching procedure successfully eliminated the differences between Gen X and non-Gen-X firms along the observed dimensions.[2]

[2] The only covariate that is still significantly related to the likelihood of having Generation X directors is the standard deviation of the age of all directors on the board. This is not surprising as Generation X directors are significantly younger that most other directors (baby boomers and members of the silent generation). We explicitly control for this covariate in the subsequent regressions.

In columns (3), (4), and (5) we use the propensity score matched sample to re-examine the relation between Generation X directors and the firm's advertising mix. The results corroborate our previous findings and indicate that firms with more Generation X directors rely significantly more on digital forms of advertising. In the next section of the paper, we turn to answering the question of whether these differences in the firms' advertising mix are ultimately beneficial for firms and their shareholders.

5.3. Generation X directors and advertising efficiency

He, Miletkov, and Staneva (2023) document that the presence of Generation X directors on company boards is associated with significantly better corporate performance. They identify corporate social responsibility, inclusion of women on the board, and innovation as three potential channels through which Generation X directors can impact firm value. Our paper extends this prior research by investigating whether Generation X directors help companies optimize their advertising mix. We have already documented that the fraction of Generation X directors on the board is significantly related to the composition of the firm's advertising mix, but it is not clear if these differences are value enhancing. To test this hypothesis, we estimate the following regressions model:

$$PERFORMANCE_{i,\,t+1} = \alpha + \beta_1 \times ADV_{i,\,t} \times Fraction\ Gen\ X\ Directors_{i,\,t} + \beta_2 \times ADV_{i,\,t} + \beta_3 \times Fraction\ Gen\ X\ Directors_{i,\,t} + \beta \times X_{i,\,t} + \gamma_j + d_t + \varepsilon_{i,\,t} \quad (2)$$

where the dependent variable, *ADVMIX*, captures different aspects of the firm's advertising mix and the key variable of interest is *Fraction Gen X Directors* that represents the fraction of Gen X directors on the board of firm *i* in year *t*. X is a vector of control variables comprised of CEO, board, financial and other firm-level characteristics (all variables are described in Appendix A). Equation (1) also includes industry (γ_j) and year fixed effects (d_t), where industries are defined based on Fama and French's 49 industry classification. To alleviate the potential reverse causality concerns, we estimate all regressions with lagged independent variables. Standard errors are clustered at the firm level.

Table 3. The moderating effect of Generation X directors on the relation between advertising spending and performance

	1	2	3	4
Dependent Variable:	**Tobin's Q_t**	**Tobin's Q_t**	**Tobin's Q_t**	**Tobin's Q_t**
Fraction GenX*Total Adv	0.466***	0.392**	0.466***	0.390**
	[2.90]	[2.50]	[2.79]	[2.49]
Total Adv	0.148***	-0.023	0.146***	-0.065
	[3.12]	[-0.39]	[2.96]	[-1.06]
Fraction Gen X Dir	-0.05	-0.404	-0.07	-0.552*
	[-0.13]	[-1.36]	[-0.17]	[-1.87]
Fraction Female Dir	0.001	0.037	-0.021	-0.006
	[0.00]	[0.15]	[-0.07]	[-0.03]
Fraction Non-white Dir	0.093	0.086	0.107	0.146
	[0.31]	[0.41]	[0.35]	[0.69]
Board size	0.147	0.018	0.161	0.066
	[0.98]	[0.16]	[1.03]	[0.57]
Fraction Independent Dir	-0.118	0.168	-0.149	0.055
	[-0.35]	[0.73]	[-0.42]	[0.25]
Busy Board	0.262	-0.211*	0.289	-0.179
	[1.42]	[-1.65]	[1.50]	[-1.39]
Median Dir Age	-0.962*	-0.156	-0.999*	-0.268
	[-1.78]	[-0.34]	[-1.78]	[-0.56]
St. Deviation Dir Age	-0.006	0.001	-0.006	-0.001

	[-0.36]	[0.07]	[-0.39]	[-0.08]
Median Dir Tenure	0.421***	0.133**	0.436***	0.157***
	[5.97]	[2.40]	[5.89]	[2.77]
CEO_age	-0.533*	-0.232	-0.559*	-0.295*
	[-1.81]	[-1.37]	[-1.81]	[-1.73]
CEO_female dummy	-0.131	-0.042	-0.126	0.002
	[-1.15]	[-0.41]	[-1.05]	[0.02]
CEO_chairman dummy	0.095	0.064*	0.091	0.061*
	[1.64]	[1.78]	[1.52]	[1.66]
Firm Age	-0.1	-1.253***	-0.099	-1.393***
	[-1.61]	[-5.05]	[-1.54]	[-5.44]
Size	-0.059**	-0.643***	-0.060**	-0.707***
	[-2.07]	[-8.15]	[-2.02]	[-8.97]
Leverage	-0.562***	-0.072	-0.553**	-0.05
	[-2.66]	[-0.36]	[-2.55]	[-0.24]
Tangibility	-0.187	-0.906***	-0.179	-0.726**
	[-0.90]	[-2.68]	[-0.83]	[-1.97]
R&D	1.198	-4.404**	1.23	-4.184**
	[1.40]	[-1.99]	[1.39]	[-2.06]
R&D dummy	0.127	-0.054	0.124	-0.098
	[1.17]	[-0.35]	[1.10]	[-0.70]
Diversification HHI	-0.474***	0.054	-0.469***	0.139
	[-4.04]	[0.47]	[-3.83]	[1.28]
Industry FE	Yes			
Year FE	Yes	Yes		
Industry*Year FE			Yes	Yes
Firm FE		Yes		Yes
N	4,658	4,658	4,658	4,658
adj. R-sq	31.3%	81.5%	29.9%	82.7%

This variable should be positively correlated with the endogenous variable, and therefore, satisfies the relevance condition of an instrumental variable. The first stage results are reported in Columns (1) and (3), with industry or firm fixed effects, respectively. Columns (2) and (4) show the corresponding second stage estimates. As we can see from the first stage coefficients, both

instruments are positively correlated with the fraction of Gen X directors on the board and significant at the 1% level, which speaks to the relevance condition. The second stage estimates confirm our main conclusion as we consistently find a strong and positive relation between the fraction of Gen X directors on the board and firm value. Also reported in Columns (2) and (4) is the Hansen's J statistic and its p-value from the Sargan-Hansen test of overidentifying restrictions. In both specifications, we fail to reject the joint null hypothesis (with p-values of .97 and .51) that our instruments are uncorrelated with the error term and correctly excluded from the estimation equation. The reported Kleibergen-Paap rk LM statistic and its p-value (<0.0000) reject the null hypothesis that our instruments are irrelevant. Both statistics strengthen our claim for the validity of the two instruments. At the same time, however, we acknowledge that the above analysis relies on the assumption that at least one of our IVs is truly exogenous; an assumption that we cannot explicitly test. Therefore, the results should be interpreted as suggestive.

6. Discussion

In conclusion, this study delved into the intriguing intersection of corporate board structure, advertising strategy, and firm value. Our investigation has uncovered valuable insights that contribute to both theoretical understanding and practical decision-making in the field of marketing and corporate governance.

6.1 Theoretical Contributions

This research has extended the scope of existing theories by bridging the gap between upper echelons theory and marketing strategy. By highlighting the substantial influence of corporate board structure, particularly the presence of Generation X (Gen X) directors, on advertising decisions and subsequent firm performance, we have expanded the boundaries of

upper echelons theory. Our study offers empirical evidence that board diversity, when viewed through the generational lens, significantly impacts advertising spending and effectiveness. This unique perspective contributes to a more comprehensive understanding of the factors driving marketing strategy at the highest organizational levels.

6.2 Implications for Practice

The implications of our findings for practitioners are significant and multifaceted. Firstly, our research underscores the strategic importance of corporate boards in guiding marketing policies. Boards of directors, as ultimate decision-makers, play a vital role in setting the trajectory of the marketing function by influencing resource allocation, appointing key personnel, and overseeing strategic direction. Acknowledging this influence, firms should actively engage board members with marketing functional expertise to leverage their insights for optimal advertising strategy formation.

Furthermore, the emergence of Generation X directors as key decision-makers offers a unique opportunity for firms. Gen Xers' inherent technological prowess, media savvy, and alignment with the preferences of contemporary consumer segments equip them to lead advertising decisions that resonate with the target audience. Firms should recognize and embrace the potential of Gen X directors to drive innovation in advertising formats and capitalize on the growing digital landscape.

The shift from traditional to digital advertising is crucial in this context. Our research emphasizes that firms with higher proportions of Gen X directors allocate more resources to digital advertising, achieving better value for their advertising investments. Practitioners should take heed of this finding and consider cultivating a board composition that reflects the diverse perspectives and insights of Generation X directors to enhance digital advertising effectiveness.

6.3. Limitations and Future Research

While our study has advanced our understanding of the relationship between board structure, advertising strategy, and firm value, there are several limitations that offer avenues for future research. Firstly, our research focuses on the presence of Gen X directors, leaving room to explore the impact of other generational cohorts on advertising strategy and performance. Additionally, our study primarily draws data from US firms, potentially limiting the generalizability of our findings to other geographical contexts.

Furthermore, while we have disentangled various board-level characteristics to isolate the impact of Gen X directors, there could still be unobservable factors influencing advertising decisions that warrant further investigation. Our use of instrumental variable approaches and propensity score matching mitigates this concern, but the complexities of real-world decision-making cannot be fully captured. Future research could also delve deeper into the mechanisms through which board diversity, including generational diversity, influences advertising strategy. Qualitative studies that explore the decision-making processes within boards could provide richer insights into the dynamics at play.

In conclusion, this study has made significant strides in unraveling the intricate interplay between corporate board structure, advertising strategy, and firm value. Our findings underscore the importance of leveraging board diversity, particularly the insights of Generation X directors, for crafting effective advertising strategies that resonate with the modern consumer landscape. By bridging the gap between corporate governance and marketing strategy, this research offers actionable insights for practitioners seeking to enhance their firm's competitive edge in the dynamic realm of advertising and value creation. As the business landscape continues to evolve,

the strategic guidance of the board of directors will remain a pivotal factor in shaping successful advertising endeavors and driving firm performance.

References Available Upon Request

Appendix A: Alternative Models and Robustness Checks

Table A1. Gen X vs non-Gen X firms

Sample:	1 Gen X firms	2 Non-Gen X firms	3 Difference
Total Adv	0.934	0.754	0.179***
Dig Adv	0.402	0.226	0.176***
Trad Adv	0.770	0.671	0.099***
Digital%	0.411	0.326	0.085***
Tobin's Q	2.080	1.878	0.203***
ROA	0.155	0.157	-0.002
Has CMO	0.146	0.148	-0.002
Has Gen X CMO	0.077	0.061	0.017**
Fraction Female Dir	0.157	0.143	0.014***
Fraction Non-white Dir	0.101	0.089	0.012***
Board size	9.523	9.313	0.21***
Fraction Independent Dir	0.804	0.804	-0.0001
Busy Board	0.212	0.230	-0.018***
Median Dir Age	61.736	64.417	-2.682***
St. Deviation Dir Age	8.342	6.260	2.081***
Median Dir Tenure	7.694	9.039	-1.346***
CEO_age	55.061	58.994	-3.933***
CEO_female dummy	0.047	0.030	0.017***
CEO_chairman dummy	0.501	0.589	-0.087***
Firm Age	32.582	35.311	-2.729***
Size	8.038	8.180	-0.141***
Leverage	0.242	0.237	0.005
Tangibility	0.248	0.279	-0.031***
R&D	0.042	0.032	0.01***
R&D dummy	0.656	0.598	0.058***
Diversification HHI	-0.816	-0.794	-0.022***
# of Observations	2,794	1,864	

Table A2. Board vs CEO vs CMO

Dependent Variable:	1 Tobin's Q_t	2 Tobin's Q_t	3 Tobin's Q_t	4 Tobin's Q_t	5 Tobin's Q_t	6 Tobin's Q_t	7 Tobin's Q_t	8 Tobin's Q_t
Fraction GenX*Total Adv	0.423***	0.279*	0.479***	0.386**	0.481***	0.393**	0.439**	0.276*
	[2.20]	[1.78]	[2.83]	[2.47]	[2.88]	[2.52]	[2.28]	[1.73]
Gen X CEO*Total Adv	0.028	0.07					0.026	0.07
	[0.47]	[1.25]					[0.44]	[1.23]
CMO*Total Adv			-0.061	-0.05			-0.055	-0.049
			[-1.16]	[-1.28]			[-0.78]	[-0.98]
Gen X CMO*Total Adv					-0.058	-0.047	-0.006	-0.003
					[-0.88]	[-0.83]	[-0.07]	[-0.05]
Fraction Gen X Dir	0.127	-0.265	-0.083	-0.545*	-0.079	-0.556*	0.111	-0.263
	[0.30]	[-0.82]	[-0.20]	[-1.86]	[-0.19]	[-1.90]	[0.26]	[-0.82]
Gen X CEO	-0.167	-0.222***					-0.167	-0.219***
	[-1.62]	[-2.95]					[-1.60]	[-2.88]
CMO			0.197**	0.124*			0.201*	0.087
			[2.03]	[1.80]			[1.74]	[0.96]
Gen X CMO					0.167	0.147	-0.013	0.068
					[1.11]	[1.55]	[-0.07]	[0.53]
Total Adv	0.141***	-0.076	0.157***	-0.055	0.153***	-0.06	0.153***	-0.065
	[2.83]	[-1.23]	[3.03]	[-0.90]	[2.99]	[-0.96]	[2.89]	[-1.05]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE		Yes		Yes		Yes		Yes
N	4,658	4,658	4,658	4,658	4,658	4,658	4,658	4,658
adj. R-sq	30.0%	82.8%	30.0%	82.8%	29.9%	82.8%	30.1%	82.8%

Table A3. An alternative measure of firm performance

	1	2
Dependent Variable:	**ROA_t**	**ROA_{t+1}**
Fraction GenX*Total Adv	0.027**	0.045***
	[1.97]	[2.63]
Total Adv	-0.001	-0.003
	[-0.22]	[-0.43]
Fraction Gen X Dir	-0.029	-0.037
	[-1.06]	[-1.38]
Controls	Yes	Yes
Industry*Year FE	Yes	Yes
CEO Generation FE	Yes	Yes
Firm FE	Yes	Yes
N	4,650	4,531
adj. R-sq	74.4%	74.3%

Table A4. Robustness tests

Panel A. Instrumental Variables approach

	1	2
Model:	**Second Stage Results**	
Dependent Variable:	**Tobin's Q_t**	**ROA_{t+1}**
Fraction GenX*Total Adv	2.311***	0.231**
	[3.19]	[2.47]
Total Adv	0.729*	0.0892*
	[1.82]	[1.77]
Fraction GenX	-0.204	-0.186
	[-0.08]	[-0.75]
Controls	Yes	Yes
Year FE	Yes	Yes
CEO Generation FE	Yes	Yes
Firm FE	Yes	Yes
N	4,562	4,439
Hansen J-stat	1.33	0.43
Hansen J p-value	0.25	0.51
Kleibergen-Paap rk LM stat	20.61	20.71
Kleibergen-Paap rk LM p-value	0.00	0.00

Panel B. Propensity Score Matching

	1	2
Dependent Variable:	**Tobin's Q_t**	**ROA_{t+1}**
Fraction GenX*Total Adv	0.401**	0.0777***
	[2.39]	[3.78]
Total Adv	0.0592	0.00783
	[0.65]	[0.64]
Fraction Gen X Dir	-0.808	-0.0275
	[-1.32]	[-0.46]
Controls	Yes	Yes
Year	Yes	Yes
CEO Generation FE	Yes	Yes
Firm FE	Yes	Yes
N	1,506	1,473
adj. R-sq	86.6%	68.2%

Panel C. Gen X vs non-Gen X firms - Propensity score matched sample

Sample:	1 Gen X firms	2 Non-Gen X firms	3 Difference
Total Adv	0.778	0.840	-0.062
Has CMO	0.146	0.150	-0.004
Has Gen X CMO	0.070	0.069	0.001
Fraction Female Dir	0.156	0.157	-0.002
Fraction Non-white Dir	0.095	0.099	-0.004
Board size	9.493	9.478	0.015
Fraction Independent Dir	0.808	0.804	0.004
Busy Board	0.217	0.217	0.000
Median Dir Age	63.361	63.084	0.277
St. Deviation Dir Age	7.139	7.270	-0.132
Median Dir Tenure	8.406	8.539	-0.133
CEO_age	57.758	57.037	0.721**
CEO_female dummy	0.042	0.044	-0.001
CEO_chairman dummy	0.567	0.564	0.003
Firm Age	36.219	35.418	0.801
Size	8.197	8.169	0.028
Leverage	0.250	0.250	0.000
Tangibility	0.283	0.279	0.004
R&D	0.032	0.034	-0.002
R&D dummy	0.616	0.627	-0.011
Diversification HHI	-0.789	-0.794	0.005
# of Observations	753	753	

Panel D. Generation X directors and advertising efficiency - high tech vs non-high tech firms

	1	2	3	4
Sample:	**Non-high-tech firms**	**High-tech firms**	**Non-high-tech firms**	**High-tech firms**
Dependent Variable:	**Tobin's Q_t**	**Tobin's Q_t**	**ROA_{t+1}**	**ROA_{t+1}**
Fraction GenX*Total Adv	0.478***	0.0305	0.0456***	0.0162
	[2.98]	[0.06]	[2.78]	[0.26]
Total Adv	-0.0965	0.0924	-0.0117	0.0122
	[-1.55]	[0.62]	[-1.43]	[0.99]
Fraction Gen X Dir	-0.913***	0.918	-0.047	-0.00357
	[-2.94]	[1.39]	[-1.57]	[-0.07]
Controls	Yes	Yes	Yes	Yes
Industry*Year FE	Yes	Yes	Yes	Yes
CEO Generation FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
N	3,434	1,224	3,357	1,174
adj. R-sq	82.9%	80.4%	75.6%	71.5%

Panel E. Generation X directors and advertising mix

	1	2	3	4
Dependent Variable:	**Total Adv**	**Digital Adv**	**Trad Adv**	**Digital(%)**
Fraction Gen X Dir	0.571	0.626***	-0.434**	0.300***
	[1.54]	[3.40]	[-2.50]	[3.03]
Total Adv		0.440***	0.895***	-0.080***
		[16.33]	[45.42]	[-8.99]
Fraction Female Dir	0.548*	0.198	-0.159	0.045
	[1.69]	[1.47]	[-1.33]	[0.47]
Fraction Non-white Dir	0.272	-0.037	0.167**	0.049
	[0.90]	[-0.31]	[1.99]	[0.59]
Board size	0.252	0.052	-0.029	0.001
	[1.25]	[0.67]	[-0.58]	[0.03]
Fraction Independent Dir	-0.736**	0.123	-0.107	0.092
	[-1.98]	[0.80]	[-1.05]	[1.07]
Busy Board	0.331	0.091	-0.013	0.032
	[1.59]	[1.20]	[-0.27]	[0.60]
Median Dir Age	-0.473	0.19	0.085	0.13
	[-0.75]	[0.77]	[0.61]	[0.78]
St. Deviation Dir Age	-0.046***	-0.007	0.010*	-0.003
	[-2.77]	[-0.98]	[1.77]	[-0.67]
Median Dir Tenure	0.008	0.046	-0.029	0.013
	[0.10]	[1.50]	[-1.57]	[0.64]
CEO_age	-0.804*	-0.325	0.224*	-0.306***
	[-1.83]	[-1.62]	[1.65]	[-2.62]
CEO_female dummy	-0.054	0.037	-0.021	0.052
	[-0.26]	[0.59]	[-0.40]	[1.43]
CEO_chairman dummy	0.065	0.015	-0.016	0.011
	[1.09]	[0.63]	[-0.82]	[0.67]
Firm Age	-0.041	-0.091***	0.042**	-0.030*
	[-0.64]	[-3.55]	[2.18]	[-1.81]
Size	-0.051	-0.032**	0.022**	-0.057***
	[-1.41]	[-2.22]	[2.30]	[-6.98]
Leverage	-0.005	-0.219***	0.057	0.017
	[-0.02]	[-2.72]	[1.06]	[0.33]
Tangibility	-0.499*	-0.266**	0.12	-0.243***
	[-1.87]	[-2.31]	[1.21]	[-3.71]
R&D	-1.020*	-0.002	0.025	0.424**
	[-1.80]	[-0.01]	[0.10]	[2.13]
R&D dummy	0.015	-0.036	0.01	0.025
	[0.10]	[-0.74]	[0.26]	[0.96]
Diversification HHI	-0.157	0.076	-0.031	-0.043

	[-1.14]	[1.54]	[-0.96]	[-1.07]
CMO	0.132	-0.054	-0.003	0.02
	[1.35]	[-1.16]	[-0.10]	[0.71]
Gen X CMO	0.104	0.104	0.005	0.005
	[0.58]	[1.55]	[0.10]	[0.14]
Industry*Year FE	Yes	Yes	Yes	Yes
CEO Gen FE	Yes	Yes	Yes	Yes
N	4,658	4,658	4,658	4,658
adj. R-sq	46.0%	68.7%	93.8%	32.2%

Panel F. Robustness - Generation X directors and advertising mix

Panel A. Instrumental Variables approach					
	1	2	3	4	5
	First Stage	First Stage	Second Stage	Second Stage	Second Stage
Dependent Variable:	Fraction Gen X Directors	Total Adv	Digital Adv	Trad Adv	Digital(%)
Fraction Gen X Dir			2.927***	-1.130*	1.363**
			[2.76]	[-1.87]	[2.36]
Total Adv			0.341***	0.933***	-0.074***
			[11.23]	[58.14]	[-4.11]
Fraction Non-Gen X directors with Gen X board connections	0.059***	0.360**			
	[4.25]	[2.07]			
State Gen X Supply	0.039***	0.073			
	[3.98]	[0.48]			
Industry Total Adv	-0.005***	0.328***			
	[-3.81]	[14.58]			
Controls	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
CEO Gen FE	Yes	Yes	Yes	Yes	Yes
N	4,658	4,658	4,658	4,658	4,658
Hansen J-stat			0.19	1.06	0.01
Hansen J p-value			0.66	0.30	0.94
Kleibergen-Paap rk LM stat			33.25	33.25	33.25
Kleibergen-Paap rk LM p-value			0.00	0.00	0.00

Panel G. Propensity Score Matching

	1	2	3
Dependent Variable:	**Digital Adv**	**Trad Adv**	**Digital(%)**
Fraction Gen X Dir	0.318*	-0.185	0.333**
	[1.69]	[-1.54]	[2.37]
Total Adv	0.337***	0.945***	-0.096***
	[9.44]	[58.74]	[-7.77]
Controls	Yes	Yes	Yes
Industry*Year FE	Yes	Yes	Yes
CEO Gen FE	Yes	Yes	Yes
N	1,506	1,506	1,506
adj. R-sq	60.6%	96.9%	34.3%