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Likeliness to Recommend: A Mixed Methods Analysis of Consumer Perception of Homebuilders

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LIKELINESS TO RECOMMEND: A MIXED METHODS ANALYSIS OF
CONSUMER PERCEPTION OF HOMEBUILDERS

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ABSTRACT

Measures of consumers' likeliness to recommend a business or company have been shown to relate to business performance. Less is known about how such scores might operate in the homebuilding industry. This study examines the factors influencing consumers' perceptions of homebuilders, an area with little published research. Using a sequential mixed-methods approach, the study analyzes survey data from consumers ($N = 366$) who had new homes built within the preceding 12 months.

Quantitative analyses of the data reveal several aspects of consumers' likeliness to recommend a homebuilder. One finding of great interest is that consumers of the survey were more likely to recommend a homebuilder if the home was certified to a high-performance building standard. Consumers also rated the quality of the home higher when it was certified to a high-performance building standard.

Qualitative analysis of consumers' open-ended explanations of their rating of likeliness to recommend their homebuilder revealed key themes of importance to consumers. These themes include the experience with the building process, quality, schedule, warranty, communication, and price.

This study offers new perspectives on the factors related to consumers' perception of homebuilders. Findings from this study provide new insight and information for improving consumers' experience with the homebuilding process which may have direct implications to a homebuilder's bottom line.

ACKNOWLEDGEMENTS

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CHAPTER 1: INTRODUCTION

In my 20 years of experience in the homebuilding industry and many lengthy discussions with other home builders across the United States, I have found that many consumers do not consider the homebuilding process to be a positive experience. When I meet with prospective new home buyers and ask them what they have heard about the homebuilding process, many share stories of challenges and headaches with building a home and with their homebuilder. Some consumers say they feel that their homebuilder disappears once the keys are handed over.

According to Torbica and Stroh (2001), "the homebuilding industry has recognized that customer satisfaction is a decisive business factor" (p. 82); however, they also find a lack of evidence indicating how well the industry ranks in performance concerning customer satisfaction. Customer satisfaction is vital to the long-term viability of a business. Increased customer satisfaction can lead to positive word of mouth resulting in new customer acquisition (Wangenheim & Bayon, 2007). Various measures have been used to assess different aspects of consumers' perception of businesses including customer satisfaction surveys (CSAT), customer effort score (CES), and the American Customer Satisfaction Index (ACSI). Researchers from diverse fields of study have also attempted to operationalize consumers' willingness to recommend a company using a metric called "Net Promoter Score" (NPS) (Reichheld, 2003). Little is known about how

NPS and other measures of consumer perception might operate within the homebuilding industry.

The purpose of this mixed methods study is to attempt to better understand consumers' perception of homebuilders during the 12 months after building a new home using measures of likeliness to recommend and rating of overall home quality. Homebuilders who can increase their customers' likeliness of recommending them and their overall quality ratings may create a competitive advantage while improving the image of the U.S. homebuilding industry.

Using secondary data from recent customers of homebuilders, a two-phase analysis was conducted. The first phase quantitatively investigates these consumers' likeliness to recommend their builder in conjunction with several consumer, builder, and home characteristics. The second phase uses qualitative methods to examine the reasons these consumers provided for the ratings of likeliness to recommend their homebuilder.

The following six research questions guide this study:

1. Does consumers' likeliness to recommend a homebuilder vary as a function of home price?

2. Does consumers' likeliness to recommend a homebuilder vary as a function home high-performance certification?

3. What is the relationship between consumers' likeliness to recommend a homebuilder and consumers' rating of overall home quality?

4. Does high-performance home certification moderate the relationship between consumers' overall home quality rating and likeliness to recommend?

5. Does builder size moderate the relationship between consumers' overall home quality rating and likeliness to recommend?

6. What reasons do consumers provide for their likeness to recommend rating?

This study fills a significant research gap in the homebuilding industry. Despite much research focused on consumer attitudes and behaviors in other sectors (e.g., retail, automotive, travel), almost no research has focused on consumers' attitudes and behaviors related to homebuilding. This study offers potential implications for improving homebuilding business practices and industry perception.

CHAPTER 2: REVIEW OF THE LITERATURE

The following review is structured to address several aspects of the literature relevant to this dissertation study. First, a discussion of the elements of consumer perception and the conceptual framework for this dissertation will be provided. Second, the absence of literature related to the homebuilding industry will be identified. Third, the review offers a description of various measures of consumer perception identified in the literature. Fourth, it identifies correlates of the Net Promoter Score methodology that may be useful in the context of the homebuilding industry, along with a discussion of the possible relationship between elements of NPS and the construct of trust. Last, a review of new home high-performance certification standards and the impact that they have on energy consumption and greenhouse gas emissions is offered.

Consumer Perception

Merriam-Webster (2021) defines *perception* as "the way you think about or understand someone or something." G. Walters and B. J. Bergiel (1989) characterized consumer perception as a process during which an individual acquires knowledge about the environment and interprets the information according to his/her needs, requirements, and attitudes.

Perception is a cognitive process whereby individuals develop a view based on their experiential, psychographic, social, cultural, and physiological background to give meaning to something (Business Management Ideas, n.d.).

Because these aspects for every individual are different, perception is unique to each person and it therefore subjective.

As an intellectual process requiring cognitive processing, perception involves a complex and dynamic process. Consumers have varying cognitive abilities, different social and cultural backgrounds (e.g., nationality, culture, class), diverse experiential backgrounds, and unique psychological processes (e.g., motivation, attitudes, values, needs). Different consumers exposed to the same experience with a company may perceive it differently. Each consumer uses their own cognition to interpret the stimuli they are exposed to in a different way.

In general, the steps in the process of perception are as follows (Business Management Ideas, n.d.):

1) An input is received from various stimuli in the individual's environment. This starts the perceptual process.

2) The perceptual process involves a consumer selecting, organizing, and interpreting each stimulus. Consumers tend to select few out of the many stimuli from their environment based upon their social, cultural, psychographic, and demographic characteristics. Each consumer's selection of stimuli is typically driven by what is relevant and interesting to them and is affected by the situation and characteristics of the stimulus. The consumer then organizes the selected stimuli for further

interpretation. The interpretation of the stimuli involves making inferences from the stimuli and giving meaning to them.

3) After the interpretation of the stimuli, an output is formed. The output may be emotions, opinions, attitudes, or beliefs. Based on the emotions, opinions, attitudes, and beliefs formed, the consumer has some resulting behavior. This behavior may be favorable for the company or unfavorable.

A consumer's perception after an experience is influenced by the consumer's expectations before the experience. The expectations of an experience beforehand are shaped by each of the elements that also shape consumer perception (experiential, psychographic, social, cultural, and physiological background). For example, consumers may establish some expectations of product quality based upon the price (often interpreted as higher the price, better the quality). Consumers' perception is also derived from comparisons made between the expectations (before the event) and the experience (after the event). Perceptions are also formed about companies from the company's image and reputation. Companies that are reputable, credible, and respected are more likely to have positive consumer perceptions than companies with less favorable images.

When consumers approach a large purchase transaction, they draw from past experiences. Consumer perception may be positive, negative, or neutral. Consumers with no experience with a company may collect information about a company and its products through a variety of methods including referrals,

reviews from other consumers, social media, advertising, the company's website, evaluating the product (visiting model homes in the case of a builder), and/or communicating with friends & family. Consumers may have perceptions and/or expectations of certain industries based upon beliefs about the industry and its reputation.

From an informal process of asking clients what they have heard about the homebuilding experience over the past 20 years as a homebuilder, I have found that most consumers have heard or had negative experiences with the homebuilding process and homebuilders in general. When customers have a positive perception of a company brand or product, they will have greater loyalty to the brand and refer others to the brand (Hayes, 2008).

Consumers may also look for signals from a company. These signals can be positive or negative. For example, the presence or length of a warranty may serve as a positive or negative signal to a consumer. An example of signaling theory in practice occurred in the automotive industry. In 1999, Hyundai Motors changed their new car powertrain warranty from 5 years / 60,000 miles to 10 years / 100,000 miles. After this change in warranty, Hyundai Motors' U.S. market share climbed from 1.1% to 4%. To the contrary, in 2002, Volkswagen reduced their powertrain warranty from 10 years / 100,000 miles to 5 years / 60,000 miles and in the subsequent three years, U.S. sales of Volkswagen cars declined 30% (Choi & Ishii, 2010).

Company Reputation

Argenti and Druckenmiller (2004) defined company reputation as "the objective representation of multiple constituencies' images of an organization, built up over time and based on an organization's identity programs, its performance and how constituencies have perceived its behavior" (p. 369). Company reputation can be positive, negative, or neutral. The good reputation of a company is well documented to positively influence company performance and even build significant value within the company, called goodwill in the accounting literature (Iwu-Egwuonwu, 2011).

With perception being an important factor in the creation of trust, positive company reputation can improve consumer perception of a company and reduce the perceived risks of hiring a company to deliver a good or service. Consumers are therefore more likely to perceive companies with good reputations as trustworthy. A good company reputation accompanying high product quality will result in fewer lost customers and an increase in new customers from word-of-mouth referrals (Keh & Xie, 2009). Company reputation is proposed as one of the most important indicators for companies to measure since it has been found to be a better indicator of consumers' intentions than consumer satisfaction or product quality (Selnes, 1998).

The literature indicates that deeper trust is based on reputation and supportive relationships (Zuppa et al, 2016). Therefore, a company's good reputation works as a signal for its good intentions. In the absence of a personal

relationship with a company, the company's good reputation is of most importance. The good reputation of a company suggests its commitment to protect and care for its customers' interest. Good company reputation also reduces the perceived risk to the consumer (Kantsperger & Kunz, 2010). The good reputation of a company has a positive influence on consumer perception since the reputation of a business shapes the expectations that consumers form before the interaction with the company (Wu et al, 2018). There is consensus regarding the strong effect that company reputation has on consumer behavioral intentions (Selnes, 1998).

Consumer Trust

The construct of *trust* is complex. The literature has addressed various types of trust and the many elements influencing and comprising its different facets. Like consumer perception, brand trust has been shown to develop from past experiences and prior interactions (Rempel et al, 1985) (Ravald & Gronroos, 1996). For trust to develop, there must be a perceived risk that results in the consumer facing some element of uncertainty in the satisfaction of their expectations (Delgado-Ballester & Munuera-Aleman, 1999). For trust to be present, the consumer must be vulnerable to this uncertainty. Building or buying a home is one of the most expensive purchases by American consumers (Bureau of labor Statistics, 2018). The significant cost of this purchase may result in consumer uncertainty, requiring some level of trust. Ganesan (1994) and Selnes (1998) suggested that overall satisfaction with a company generates trust

because overall satisfaction indicates that the company fulfills a promise to protect and care after the consumers' interest. The literature also suggests that a consumer's likeliness to recommend a company is highly correlated with consumer satisfaction (Hayes, 2008).

Trust in the construction contracting environment is an exception versus a norm. Creating a trusting contracting environment has been identified as one of the key areas of improvement that can impact the construction industry (Cheung et al., 2010). This finding does not involve the trust between builder and consumer, but it does refer to the challenge that builders face working with their subcontractors. While not the focus of this study, it draws attention to the difficulty builders face working within their business relying on many subcontractors where little trust exists while trying to support and build trust with consumers. It is likely that mistrust between builders and their subcontractors generates some level of mistrust between consumers and builders.

Customer Loyalty

One variable related to consumer perception is customer *loyalty*. Customer loyalty metrics examined in the literature frequently use questions of customer satisfaction and likeliness to recommend and have been found to have minimal measurement error (Hayes, 2008). Of the measures of customer loyalty used in survey instruments, items include likeliness to recommend, satisfaction, and likelihood to repurchase. Hayes (2008) compared commonly used loyalty questions (see Appendix A) and found that consumers respond to each loyalty

question in a consistent way (correlation of $r = .87$). These findings suggest that consumers who are highly likely to recommend a business are also highly likely to be satisfied with the business, and consumers who are not likely to recommend a business are unlikely to be satisfied with the business. Hayes (2008) concluded from the results of the study that each of the four questions used provided accurate measures of the unidimensional construct of consumer loyalty.

Conceptual Model

In this study, consumer perception is defined as consumer beliefs about a company. Consumers express feelings and behaviors derived from their beliefs about a company. These beliefs are influenced by a myriad of factors related to the consumer, the homebuilder, and the external environment, some of which are identified in Figure 1. In the scope of this study, these beliefs are derived primarily from experiences with the company. Beliefs are also influenced by other factors, including marketing messages from the company, signaling from the company, public reviews of the company, and opinions from others about the company. Likeliness to recommend is used as a proxy for consumer perception in this study. The literature indicates that this proxy for consumer perception is also positively and strongly correlated with customer loyalty, customer satisfaction, and trust.

Figure 1

Factors Related to Consumer Beliefs About a Company

Customer Factors Influencing Customer Perception	Builder Factors Influencing Customer Perception	Outside Environment Factors Influencing Customer Perception

- Personality traits
- Past experiences
- Finances / income
- Relationships
- Age
- Culture
- Location
- Living conditions
- Budget
- Health
- Family situation
- Number living together

- Personality traits of builder / team
- Company culture
- Finances / income
- Social media presence
- Supplier relations
- Number of projects
- Number of employees
- Service area
- High-performance home certification

- Supply chain
- Prices of materials
- Labor availability
- Economy
- Pandemics
- Political environment
- Regulations
- Government inspectors
- Building code changes
- Media
- Interest rates

Limited Literature on the Homebuilding Industry

A search for literature on consumers' perception and satisfaction of homebuilders did not reveal a compelling pattern. Remarkably, little information was found related to the homebuilding industry in most contexts. Aside from a handful of articles ranging from lean practices in precast concrete panelization to zero carbon homes in the United Kingdom, only one peer-reviewed article from 2001 discussing customer satisfaction in homebuilding was found in the literature. The lack of documented research was echoed when the researcher

contacted the most prominent U.S. homebuilding professional trade association, the National Association of Homebuilders (NAHB). The NAHB's Vice President of Survey Research was contacted to determine if the association had collected any consumer data related to the research topic. Surprisingly, NAHB had no data regarding consumer loyalty or perception of home quality. The only NAHB research related to consumers' perceptions of homebuilders was contained in a 2019 study conducted by the association. This study included the results from a single consumer survey question regarding consumers' perception of homebuilder professional designation credentials. The survey data indicated that the majority of respondents thought that homebuilding contractors with professional designations (a) are more professional and credible, (b) provide better quality work and craftsmanship, (c) provide better service levels, (d) are more reliable, and (e) are worth paying a higher price for (NAHB, 2019).

Several research articles have addressed the importance of trust within construction project teams and between general contractors and subcontractors, but none of the studies addressed trust between consumer and contractor or consumer and homebuilder (Pinto et al., 2008; Smith, 2013; Wong et al., 2008; Zaghoul & Hartman, 2002; Zuppa et al., 2015). The absence of information from which to gain insight into the current perception of homebuilders from consumers' perspective leaves no benchmark for homebuilders to use for targeting improvement or for understanding where the opportunities for improvement may lie in their interactions with consumers.

According to McKinsey and Company (2017), the construction industry employs 7 percent of the global working-age population. At roughly $10 trillion in global construction-related spending, the global construction industry is one of the most significant industry segments in the global economy. The limited presence of literature on consumer perception in the construction industry presents a substantial opportunity for research.

Measures of Customer Perception

As noted above, researchers and businesses have attempted to assess various aspects of consumer perception. This section provides a description of several approaches that researchers have used to do so.

CSAT – Customer Satisfaction Survey

One of the most common methods for measuring customer satisfaction is CSAT, the Customer Satisfaction Survey. Hayes (2008) notes that the customer satisfaction survey is one of the most utilized measures of satisfaction and the historical gold standard for the determination of customer satisfaction. However, the development of a customer satisfaction survey instrument is rigorous and can be time consuming (Hayes, 2008). Yang (2003) proposed that the purpose of a customer satisfaction survey goes beyond understanding the customers' satisfaction level but include gaining insight on areas for improvement. With this information, businesses can take actions to improve customer satisfaction level. Surveys can be structured to include attributes of quality allowing customers to rate each attribute with a satisfaction score. When consumers evaluate quality of

a service or product based upon several attributes, more information is gained by the business on each attribute of quality. A business can rank the quality attributes in order of importance enabling it to focus on the most important attributes of quality with the largest opportunity for improvement (Yang, 2003).

Hayes (2008) noted that the development of customer satisfaction surveys involves analysis and determination of the quality dimensions of importance to the customer. The customer requirements of a product or service must be identified to measure satisfaction related to each of them. One must also understand the quality dimensions from the customers' perspective to understand how customers define the quality of a service or product. In the method known as quality dimension development, the initial ideas for quality dimensions are identified from journals, research literature, and personal experience (Hayes, 2008).

A second method of identifying customer satisfaction measures involves the identification of critical incidents. The critical incidents approach identifies quality dimensions through direct customer interviews. The critical incidents are then categorized into items of satisfaction that comprise the customer requirements (Hayes, 2008).

Customer satisfaction surveys are often administered for each touch point or encounter that a customer has with a business. Businesses typically need to understand and prioritize the customer satisfaction experience related with each customer touch point. For a homebuilder, there are numerous touch points with

clients. From the initial sales contact to plan design meetings, selections

appointments, on site construction progress meetings, closing / key handover,

and the warranty process, the touch points between homebuilder and client are

numerous. A challenge with trying to assess the customer satisfaction associated

with each of these touch points is that it becomes a lengthy and sometimes

arduous survey experience for the customer. Research has shown that survey

respondents have a limited attention span for providing meaningful responses to

a survey instrument (Rao & Chandra, 2012). A customer satisfaction survey that

attempts to measure satisfaction for every customer touch point could take well

over 40 minutes to complete, and the answers may not accurately represent the

customer satisfaction for each touch point due to the length of time required of

participants (Rao & Chandra, 2012). Furthermore, long customer surveys also

generate a large amount of data that the homebuilder must manage and

interpret.

HOMBSAT

Despite the common use of customer satisfaction surveys across

numerous industries, only a single customer satisfaction study of the

homebuilding industry was identified in the literature—a 2001 study by Torbica

and Stroh published in the *Journal of Construction Engineering and

Management*. Torbica and Stroh (2001) acknowledged that "there are no

commonly accepted methods of measuring customer satisfaction in the

construction industry" (pp. 82-83). Due to the lack of commonly used methods,

the researchers developed and validated an instrument for measuring home-buyer satisfaction they named HOMBSAT. Like many customer satisfaction survey instruments, the HOMBSAT instrument is long, consisting of 51 items. No similar studies were found in the literature. Furthermore, no studies citing Torbica and Stroh's study or the HOMBSAT methodology were found that examined customer satisfaction in homebuilding.

Scholars have pointed out that survey items should be simple and easy to understand for both the customer and the company's front-line workers (Hayes, 2008; Rao & Chandra, 2012). This enables employees at all levels of an organization to understand the survey questions and connect the responses to the question with actionable efforts within the organization. With 51 measurement items, the HOMBSAT survey would arguably be too complex for frontline workers to have actionable and understandable strategies from the scores (Rao & Chandra, 2012). The methodology used in the HOMBSAT study, the length of the survey, and the lack of additional studies using the instrument over the past 20+ years suggest that the measure may not be an ideal tool for assessing consumer perception.

ACSI – American Customer Satisfaction Index

The American Customer Satisfaction Index (ACSI) is a type of customer satisfaction survey that was first used in 1994 (The American Customer Satisfaction Index Home, n.d.). As the only nationwide measure of customer satisfaction across industries in the U.S., the index measures the satisfaction of

households with the quality of goods and services provided by U.S. and International companies who have a significant market share in the country. Approximately 500,000 customers are surveyed annually regarding products and services from over 400 companies and across 47 industries. However, the American Customer Satisfaction Index does not measure customer satisfaction for any companies in the construction industry and was therefore not considered in this study (The American Customer Satisfaction Index Home, n.d.).

CES – Customer Effort Score

Introduced in a Harvard Business Review article in 2010, the Customer Effort Score was designed to measure the amount of effort required by the customer to have a customer service request handled (Dixon et al., 2010). Responses are scored on a Likert-type scale from 1 (*very low effort*) to 5 (*very high effort*). The authors asserted that the CES score has very strong predictive power of customer loyalty, which they defined as "customers' intention to keep doing business with the company, increase the amount they spend, or spread positive word of mouth" (Dixon et al., 2010, p. 121). Their measure is a targeted, short-term metric and is focused on a specific transaction with the business (Staffaroni, 2019). The CES is focused on addressing areas of customer friction with a company (*CSAT vs NPS vs CES: A customer satisfaction metrics comparison*, n.d.).

Peer reviewed studies comparing the three customer feedback metrics have found that CES statistically lacks substantial impact on customer retention

(De Haan et al., 2015). CES is a backward-looking metric compared to Net Promoter Score and CSAT which are forward-looking or have forward-looking elements, respectively. De Haan et al. (2015) suggested that companies should avoid using metrics that are focused on specific incidents in the past as a comprehensive business performance metric.

Net Promoter Score

NPS was co-developed by Frederick Reichheld, a consultant at Bain & Company, and NICE Satmetrix. Reichheld introduced the concept in a *Harvard Business Review* article titled "The One Number You Need to Grow" (Reichheld, 2003). Reichheld argued that traditional customer satisfaction measures were overly complex and lacked strength in connection to company growth. He also noted that many of these measurement systems were flawed as they incentivized workarounds by employees and customers to provide good scores. I experienced an example of customer satisfaction survey workarounds in my past career with a Fortune 100 manufacturing company. Each year, approximately two weeks before our company's third-party customer satisfaction surveys were sent to our clients, our business unit would ship copious quantities of fresh South Carolina peaches to our customers across North America. Of course, the objective of these gifts was to encourage our customers to provide high satisfaction scores for our business unit to reflect positively in the eyes of our corporate management.

Reichheld, Bain & Company, and NICE Satmetrix developed 14 case studies in which they assessed consumers' actual purchase and referral behavior along with their answers to a series of 20 questions included on a Bain & Company survey instrument called the Loyalty Acid Test. Of the 20 survey questions, the one demonstrating the strongest statistical correlation with referrals and repeat purchases was the question regarding likeliness to recommend (Reichheld, 2003). To measure customer loyalty, NPS asks a simple question of respondents: *How likely is it that you would recommend [company X] to a friend or colleague?* The NPS framework uses an 11-point scale (0 to 10) where 0 equals "not at all likely," 5 is considered neutral, and 10 equals "extremely likely." Those who answer 9 or 10 are labeled "promoters," 7 or 8 "passively satisfied," and 0-6 "detractors." To calculate the NPS, the percentage of detractors is subtracted from the percentage of promoters (passives are not counted). Therefore, the range of the NPS is from -100 (representing 100% detractors and 0% promoters) to +100 (0% detractors and 100% promoters). An NPS score higher than zero is good, a score above 50 is excellent, and a score over 70 is thought to be world-class (Globalresponse, n.d.).

In the 2003 *Harvard Business Review* article, Reichheld noted that due to the strength of the data supporting the single question of NPS combined with the simplicity and ease of implementation of the NPS tool, the NPS could be the single marketing measure needed to characterize consumer loyalty and predict company growth. Reichheld also noted that company size has no relationship to

NPS, a characteristic that allows NPS to work for small and large companies alike. With the simplicity and applicability of NPS to companies of all sizes, it is surprising to find no literature referencing the use of NPS in the homebuilding industry.

As scholars have noted, the homebuilding industry has historically focused on limited performance metrics—essentially, complete the building and turn it over to the client within the project schedule (Maloney, 1990; Sanvido, 1988). Successful completion of these performance goals equals success in the construction industry, with little thought of any other measure of success. Torbica and Stroh (2001) observed that the use of "soft" metrics in homebuilding, including customer satisfaction, was in its infancy in 2001. Twenty years later, the literature contains little further discussion of metrics such as customer satisfaction related to the construction industry or homebuilding.

Business managers are more likely to use customer feedback measures that are straightforward to implement, simple to explain, and predictive of future business outcomes (Ittner & Larcker 2003; Reichheld, 2003). A simple, straightforward metric, such as NPS, could be ideal for an industry such as homebuilding, which Torbica and Stroh (2001) noted over two decades ago had made little progress towards measuring and understanding customer satisfaction and loyalty.

Concerns with Net Promoter Score

Since Reichheld's (2003) publication about NPS, many challenges have emerged in the literature related to the NPS methodology. Reichheld himself noted in his seminal work that NPS was not accurate for all industries. He found that the strong relationship between NPS and company growth rate was evident in most industries. However, it was not present in other industries, specifically those where users had little choice in the decision to purchase the product. Examples of such industries include monopolies and enterprise software (Reichheld, 2003).

Despite the growing popularity of NPS, some research has failed to show the same relationships that Reichheld demonstrated regarding NPS and business growth (Keiningham et al., 2008). In addition, research has indicated that multi-metric models more accurately predict company performance than do single-metric predictors, including NPS (Keiningham et al., 2008). Additional findings suggest that NPS may vary based upon the demographic characteristics of the respondents. For example, multiple studies have shown that millennials tend to give lower NPS scores compared to non-millennials (Kasch, 2016; Medallia, 2016; Situmorang, 2017). Further variations in NPS scores were also found between studies using different methods of administering the measure (Van Der Heijden, 2017).

Scholars have more recently raised questions about the use of NPS as the best measure of consumer loyalty. For instance, Fisher and Kodupleski (2019) found that the term "passive" customers is a misnomer. They asserted

that passive customers are not loyal customers and are willing to shop for greater value. These customers will switch to a competitor who provides more significant value. In the context of NPS, passive customers are not measured, yet these customers can provide important insight into competitive offerings. Further supporting this point, Korneta (2014) found that the probability distribution of recommendation rating in a study of retail customers resulted in approximately 28% of customers being in the passive customer category (score of 7-8).

Wicks and Roethlein (2009) indicated that businesses must understand the wants and needs of the customer to develop products and services that will meet these wants and needs to maximize customer satisfaction. The likeliness to recommend question does not provide any feedback that will provide an understanding of the specific wants and needs of the customer. The single NPS question is simply an indicator of consumers' perspective and presumably their perception of the business.

Challenges to NPS note that managing important customer outcomes is broader than a single survey question. The use of a single item to measure a construct is less reliable and contains greater measurement error than multiple item measures (Hayes, 2008). However, the single survey question of NPS, likeliness to recommend, is highly correlated with the broader measures of customer satisfaction and loyalty, which use more questions to derive a score. Despite this high correlation, using an index that utilizes multiple items is

statistically sounder than a single item since the index provides a more precise measurement than any one item comprising the index.

An Alternative Measure: Consumers' Likeliness to Recommend

While there are various challenges to the NPS methodology, there are no apparent challenges in the literature to the use of the likeliness to recommend question to gain valuable consumer insight. The addition of an open-ended question that helps identify the "why" behind the likeliness to recommend rating provides additional insight into consumers' perceptions of the business. Likeliness to recommend scores are certainly more straightforward in their examination than the formulaic approach to calculating NPS. Despite the literature challenging NPS's accuracy, further studies have shown that the response to the single NPS question offers similar results to a customer satisfaction score but is much easier and more straightforward to administer and analyze (Rao & Chandra, 2012).

Correlates of Likeliness to Recommend and Similar Measures

Researchers have found that NPS and similar measures of likeliness to recommend are related to numerous customer outcomes. Korneta (2014) found that the NPS index is highly correlated with several criteria, including customer loyalty, trust, and value for money. Fisher and Kordupleski (2019) also found that NPS is a valuable loyalty metric. Reichheld's (2003) research confirmed these relationships empirically. Reichheld (2003) noted in much of his work on NPS

that the key question underlying the NPS, likeliness to recommend, is positively related to customer loyalty and satisfaction.

The likeliness to recommend score has been shown through the various NPS studies to be an accurate predictor of customer satisfaction and as a proxy measure of customers' likely intent (De Haan et al., 2015). A study comparing NPS and CSAT found that the differences are not substantial between the two measures as indicators of customer retention (De Haan et al., 2015). NPS suggests that customers are satisfied if they are willing to recommend the business. If this is the case, then the antecedents of customer satisfaction would still apply based on the customer retention chain in Figure 2 by Wicks and Roethlein (2009).

Figure 2

The Customer Retention Chain
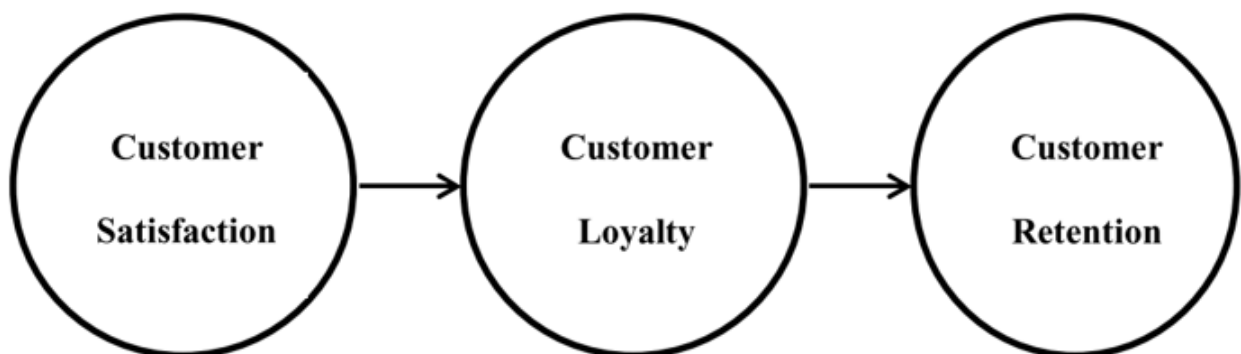
Source: Wicks and Roethlein (2009)

Anecdotal evidence suggests that, in the context of home construction, customers evaluate builders based on factors such as energy-efficient building practices, the size of the building company, and the builders' familiarity with and

knowledge about the local community (as opposed to less personal, nationally based builders). The building price point and perception of quality might also play a role in consumers' choice of a builder. The factors mentioned above may also relate to consumers' likeliness to recommend a builder to friends or colleagues.

High-Performance Building Standards and Certifications

Much like the topics researched in the previous sections, there is little literature on high-performance or green building certifications for residential construction and how homes certified to these programs may affect consumers' satisfaction in a homebuilder, quality rating of a home, or likeliness to recommend a homebuilder. The limited literature found was published over a decade ago. Fortunately, current information about residential green building certification programs is readily available from the organizations responsible for managing the various programs.

Several high-performance building certifications are available in the U.S. residential construction industry. These are also known as green building programs/certifications. The most prevalent programs are available on a national level, while some operate only locally or regionally. The core elements of high-performance building certification programs include green/sustainable materials and building practices, energy efficiency, water management, durability, and indoor air quality. Each residential green building certification program requires third party performance testing to a higher standard than required by the prevailing building or energy code (Reeder, 2010, Reposa, 2009, U.S. Green

Building Standard, 2021, U.S. Environmental Protection Agency Energy Star

Program, 2021).

It is noted in the literature that green and high-performance building has

faced numerous obstacles to adoption on a wide scale ranging from technical

and economic challenges to social and psychological challenges (Hoffman &

Henn, 2008). Despite these challenges, high-performance, sustainable, and

green certifications have continued to grow over the last decade (Home

Innovation Research Labs, 2021, U.S. Department of Energy, 2021). One of the

most used high-performance certifications in single-family new home

construction is the U.S. Environmental Protection Agency's Energy Star

standard. As of 2021, Energy Star certified new single-family homes hold a 7.9%

market share in the United States (U.S. Environmental Protection Agency Energy

Star Program, 2021). Other more stringent high-performance building programs

have experienced significant growth over the last decade including the U.S.

Department of Energy's Zero Energy Ready Home standard (see Figure 3) and

the National Green Building Standard (see Figure 4).

Figure 3

Number of Department of Energy Zero Energy Ready Certified Homes by Year
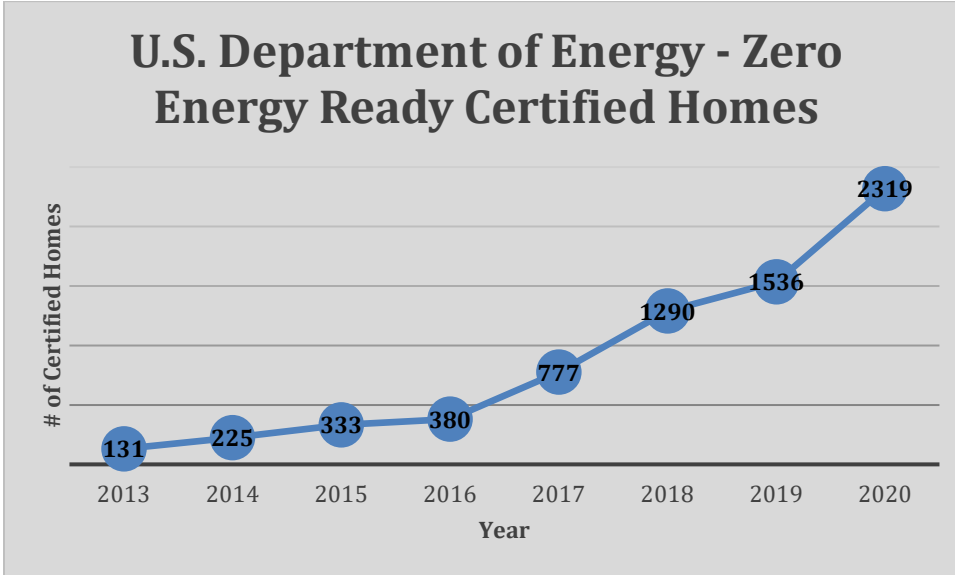
Data Source: U.S. Department of Energy

Figure 4

Number of National Green Building Standard Certified Homes by Year
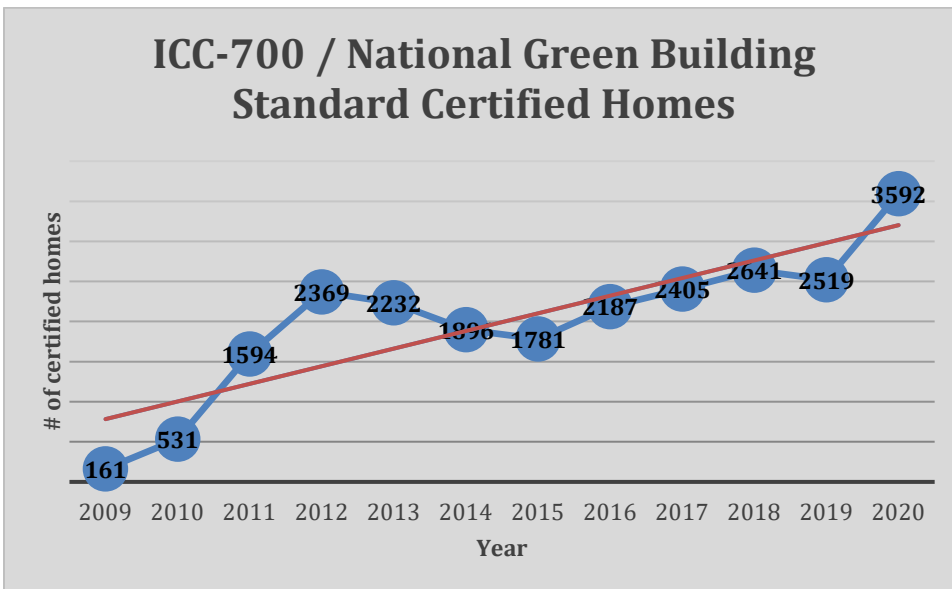
Data Source: Home Innovation Research Labs

Homes certified to the ENERGY STAR program are at least 10 percent more efficient than homes built to code and achieve a 20 percent efficiency improvement on average (U.S. Environmental Protection Agency, n.d.). A 2014 UC Berkeley study found that green buildings produce significantly less greenhouse gas emissions than buildings constructed to the baseline building code through energy efficiency, water efficiency, and waste reduction (Mozingo, L. & Arens, E., 2014). According to the US Green Building Council, LEED certified homes use 20 – 30 percent less energy than non-certified homes, with some homes saving up to 60 percent (U.S. Green Building Council, n.d.). Energy efficiency of the built environment is one of the key initiatives aimed at fighting climate change, and buildings, which account for 30% of global energy consumption, represent a significant opportunity for reduction in energy consumption and subsequent reduction in greenhouse gas emissions (IEA, 2022).

In January 2022, the White House launched the National Building Performance Standards Coalition, focused on increasing energy efficiency in existing buildings (National Buildings Standards Coalition, n.d.). On June 1st, 2022, the Biden administration launched the New Building Codes Initiative with the goal of increasing adoption in the United States of the latest building codes to improve energy efficiency and resilience to the effects of climate change. This initiative will also seek to require above-code green construction standards in HUD-assisted housing (The White House, 2022). Building and certifying new

homes to green building standards has a positive environmental impact and reduces the impact from new construction on climate change.

Despite the growing number of certified new homes constructed in the United States, no published research was found that studied consumers of homes certified to high-performance building. Additionally, no published research specifically addressed the potential influence that high-performance home certification has on consumers' perception of quality or likeliness to recommend a homebuilder. The absence of studies relating to these topics presents a significant opportunity for this research.

The researcher's experience using likeliness to recommend ratings, along with his discovery of secondary data containing such consumer ratings for homebuilders piqued his interest in the Net Promoter Score methodology. Finding mixed criticism of NPS in the literature, the decision was made to focus on the likeliness to recommend rating combined with several other items in the data set, including quality rating, high-performance certification status, and the open-ended responses to likeliness to recommend. This data provided an accessible means to gain insight into consumer perceptions of homebuilders and shape future studies in this area.

Purpose of the Study

The purpose of this research study is to better understand consumers' perception of homebuilders during the 12 months after building a new home using consumers' likeliness to recommend rating of their homebuilder and their

rating of overall home quality. Builders who can increase consumers' likeliness of recommending them and/or consumers' overall home quality ratings may have the potential to create a competitive advantage while improving the image of the U.S. homebuilding industry.

CHAPTER 3: METHOD

Research Questions

The following six research questions guide this study:

1. Does consumers' likeliness to recommend a homebuilder vary as a function of home price?

2. Does consumers' likeliness to recommend a homebuilder vary as a function of home high-performance certification rating?

3. What is the relationship between consumers' likeliness to recommend a homebuilder and consumers' rating of overall home quality?

4. Does high-performance certification moderate the relationship between consumers' overall home quality rating and likeliness to recommend?

5. Does builder size moderate the relationship between consumers' overall home quality rating and likeliness to recommend?

6. What reasons do consumers provide for their likeliness to recommend rating?

A list of these questions, the associated variables, and analyses can be found in Table 1.

Research Design

A concurrent mixed-methods research design was utilized to analyze the secondary survey data for this study (Creswell, 2018). The quantitative and qualitative data were collected from the same survey instrument simultaneously (Terrell, 2016). However, data were analyzed in two phases. In Phase 1,

Table 1

Research Questions, Variables, and Analyses

Research Question (RQ)	Variables	Planned Analyses
Does customers' likeliness to recommend a homebuilder vary as a function of home price?	DV: Likeliness to Recommend (0 to 10) IV: Home price (5 categories)	Mean comparison (i.e., one-way ANOVA) of likeliness to recommend scores by home price.
Does customers' likeliness to recommend a homebuilder vary as a function home high-performance certification rating?	DV: Likeliness to Recommend (0 to 10) IV: High performance home certification (yes, no)	Mean comparison (i.e., independent samples *t* test) of likeliness to recommend scores by whether a home has a high-performance certification.
What is the relationship between customers' likeliness to recommend a homebuilder and customers' rating of overall home quality?	DV: Likeliness to Recommend (0 to 10) IV: Rating of overall home quality (1 to 5)	Pearson correlation
Does high-performance certification moderate the relationship between customers' overall home quality rating and likeliness to recommend?	DV: Likeliness to Recommend (0 to 10) IV: Rating of overall home quality (1 to 5) Moderator: High performance home certification (yes, no)	Analysis 1: Separate correlation coefficients for high-performance and non-high-performance home buyers. Analysis 2: Multiple Linear Regression $y = B_1 x_1 + B_2 x_2 + B_3 x_1 x_2 + b$ y = likeliness to recommend x_1 = home quality rating x_2 = is certified $x_1 x_2$ = interaction term

What reasons do consumers provide for their likeliness to recommend rating?	Open-ended responses	Constant comparative coding and thematic analysis

quantitative analyses are performed based on select closed-ended survey items. In Phase 2, qualitative methods were utilized to analyze consumers' responses to one open-ended survey question. Insights from Phase 1 and Phase 2 were compared by examining the quantitative and qualitative data.

RQ1-RQ5 are answered with survey data regarding consumers' likeliness to recommend the builder and related survey variables. RQ6 is answered using the respondents' open-ended responses in which they provide reasons for their likeliness to recommend rating.

Overview of Secondary Dataset

This study utilizes a secondary dataset from a survey developed by Mr. Jimmy Diffee of Bokka Group, a market research firm headquartered in Denver, Colorado. The online survey was administered by Qualtrics and the Home Innovation Research Labs. Survey data were collected from unique participants in either January/February of 2020 or May/June of 2020. Permission to use the data was obtained from Mr. Diffee. Mr. Diffee also confirmed that no publications have been authored from these data to date. The survey instrument that Mr. Diffee developed is included in the Appendix of this proposal.

Participants, Recruitment, and Procedures

The target population of the survey was U.S. consumers who had purchased a new home in the previous year. Survey completion was voluntary. The unit of analysis for this study is individual consumers. The sample frame for

the study that is representative of the U.S. population of consumers of new homes was reached by Qualtrics and by the Home Innovation Research Labs.

Recruited participants were 366 consumers who had a new home built within the past year. The consumers lived throughout the United States. They were compensated for their time in taking the survey. A variety of compensation methods was used to recruit participation (e.g., airline miles, cash). Qualtrics recruits participants from several sources including member referrals, targeted e-mail lists, consumer loyalty web portals, social media, and permission-based networks. The Qualtrics consumer panel members' names, addresses, and dates of birth are typically validated via third-party verification measures. Recruitment and verification procedures Home Innovation Research Labs follows similar methods and practices as Qualtrics.

The survey was administered using Qualtrics online survey software as well as proprietary software used by Home Innovation Research Labs. Both software platforms registered and stored all survey responses in the cloud.

To increase response rates and reduce any response bias, Qualtrics' and Home Innovation Research Labs' best practices for survey administration were used. An advantage of using an online survey administration source is the organizations' familiarity with online survey methods and availability of available survey panels from which to solicit participants. These organizations also focus on survey research and follow best practice guidelines for survey research.

Participant Demographics

The 366 survey participants represented residents of 41 states across the United States. Participants were in the following age groups: under 23 years (<1%), 23-38 years (36%), 39-54 years (31%), 55+ years old (32%). First-time homebuyers represented 36 percent of the respondents.

The survey data represents new homes built by 227 different homebuilders with known homebuilding company presence evenly distributed between national and local (with 12% unknown). Thirty-two percent of participants indicated that their home was a certified high-performance home such as ENERGY STAR or LEED for Homes. Home prices represented in the survey ranged from under $200,000 to over $600,000 with the majority (53% ranging between $200,000 and $399,000.

Survey Measures and Variables of Interest

The survey items were based upon variables of interest including one question regarding the consumer's likeliness to recommend their homebuilder to a friend or colleague. Participants were asked to rate their likeliness to recommend their builder on a scale of 0 - 10. This question was one of the primary variables of interest for the survey creator as it facilitated the calculation of net promoter score, which was one of the primary objectives of the survey. Participants were also asked to rate aspects of their homebuilding experience on a 5-star scale. A higher number of stars indicates a higher rating. The survey items are listed in Appendix B.

The survey also included questions regarding respondents current housing situation and role in the decision-making process for purchasing a new construction home. One open-ended question was included in the survey immediately following the question about the likeliness to recommend. This question asked the participant to "Tell us a bit more about why you chose {rating on likeliness to recommend}." This question was presumably included in the survey to obtain qualitative insight into the participants' reason for selecting this rating.

The survey started with an introductory statement thanking the respondent for participating in the survey and noting that the responses will help "understand the housing industry." This introduction also notes the length of time for completion of the survey (approximately 5 minutes) and that the survey and all answers provided will be confidential. A question confirming the participant's age of 18 years old or greater was incorporated at the end of the introduction. The initial survey questions utilized skip-logic questions to limit survey respondents to include only the sample frame of interest. This was done using skip logic questions designed to exclude participants that did not meet the study's criteria of buying a newly constructed home in the previous year and any participants under 18 years of age. For respondents indicating by their answers that they were under 18 years of age or had not purchased a newly constructed home in the prior twelve (12) months, the survey ended. This eliminated honest respondents that did not meet the survey criteria.

The dependent variable of interest in the study is consumers' likeness to recommend the home builder. Many independent variables may influence consumers' likeness to recommend the home builder. Variables of interest in this study include:

- Price of home

- High-performance certification status of home

- Quality of home

- Size (presence) of builder

- Age of consumer

Multiple variables are certain to influence a consumer's likeliness to recommend a builder. For example, a consumer's experience with a sales agent involved in their home building transaction may affect their likeliness to recommend. Other extraneous variables include past purchasing experiences with existing homes, issues with previously owned homes, home building experiences of friends or family, perceived differences in the quality of construction methods used by different builders or in different regions. A consumer who was born and raised in France, where homes are typically built with concrete and masonry, may feel that U.S. wood frame construction is inferior, which may influence their willingness to recommend a U.S. homebuilder. Intervening variables may also exist such as a consumer's credit score or mortgage interest rate, which affects the price range of the house they can afford

to build which can affect their perception of quality and/or influence their likeliness to recommend a homebuilder.

Data Analysis

Table 1 provides a list of the statistical analyses used to answer RQ1-RQ5. The specific quantitative analysis methods used are comparison of means using comparison of means using one-way ANOVA, independent samples t tests, Pearson correlation, and multiple linear regression. The statistical analyses were reviewed with an expert statistician for further verification of accurate statistical conclusions. All statistical analyses were conducted using the SPSS version 27 software.

These inferential statistical tests rely on the assumption that the data in the study are normally distributed. Descriptive statistics, including mean, standard deviations, skewness, and kurtosis were therefore examined for each variable prior to statistical testing. Both continuous variables (i.e., likeliness to recommend a homebuilder, quality of the home) were negatively skewed, meaning that most values were grouped together above the mean at the higher end of the scale (i.e., customers tended to be likely to recommend their homebuilder and to rate the home quality on the higher end of the scale). The skewedness of the likeliness to recommend data is clearly visible in Figure 9. However, according to the Central Limit Theorem, violating the normality assumption is most problematic when the study sample size is small (i.e., < 30) and threats to reliability decrease as the sample size increases. Indeed, recent

evidence suggests that parametric tests "are remarkably robust to non-normality, ensuring that type I errors (false-positive conclusion) are kept at the desired low rate" and outweigh statistical alternatives (Knief & Forstmeier, 2021). Therefore, the planned analyses were conducted, and the limitations related to this decision are noted in the discussion section.

Qualitative analysis was used to answer RQ6, the open-ended question of interest. No established theoretical framework was available for interpreting consumers' reasons for their likeliness to recommend a builder, so constant comparison was used to analyze the open-ended data. A cyclical coding process was used to identify central themes (Saldaña, 2016). In the first cycle, a team of two (i.e., a coder and the lead researcher) met for an initial read-through of the data making analytic memos to identify general themes and patterns in the data. The team discussed the codes and came to a consensus on the way general themes would be identified. Alternative interpretations were also discussed.

In the second cycle, the coder and researcher then separately coded the qualitative responses and re-convened to compare agreement (i.e., coding agreements / total codes assigned), as a measure of inter-rater reliability. After this second pass, an inter-rater reliability of .95 was reached which exceeded the minimum recommended by Miles et al. (2019). Taking these steps allowed for revising the coding list so that it adequately reflected the data. Microsoft Excel was used for developing and applying the coding. The team also categorized each qualitative response as positive, negative, or both positive and negative.

Coding frequencies were calculated as a means of condensing the open-ended data for a straightforward interpretation of themes (Miles et al., 2019). In addition to providing count data for each code, proportions were calculated by dividing the number of times a code was assigned by the number of participants who answered the open-ended question. These calculations also helped reveal which themes were most salient in consumers' responses. Following a similar method used by Lewis and Mehmet (2020), who examined consumer perceptions in the travel industry, final coding frequency was examined for patterns according to where consumers fell in their likeliness to recommend rating.

The initial codes, or topics, were further analyzed by summarizing the positive and negative types of responses for each topic into a concise theme for each. The themes were then formed into unique analytic statements for each topic's positive and negative responses.

CHAPTER 4: RESULTS

The objectives of this study are threefold. The first objective is to examine mean differences in consumers' likeliness to recommend a homebuilder. The second objective was to examine relationships between consumers' perceived home quality and likeliness to recommend. The third and final objective is to use consumers' open-ended responses to contextualize these quantitative findings. The specific results for each research question are addressed below.

RQ1: Does Consumers' Likeliness to Recommend a Homebuilder Vary as a Function of Home Price?

A univariate ANOVA was conducted to determine whether consumers' likeliness to recommend a homebuilder varied as a function of the sale price of the home purchased. Results show that there are no significant differences of likeliness to recommend ratings across home price categories $F(5,360) = 1.03$, $p = .40$ (see Figure 5).

RQ2: Does Consumers' Likeliness to Recommend a Homebuilder Vary as a Function of Home High-Performance Certification Rating?

To answer RQ2, an independent t-test was conducted. The results of the independent t-test showed that likeliness to recommend varies significantly as a function of high-performance home certification. Specifically, consumers of homes certified to a high-performance standard ($M = 8.36$, $SD = 1.92$) were significantly more likely to recommend the homebuilder compared to consumers whose homes were not certified to a high-performance certification standard ($M =$

7.82, *SD* = 2.32), *t* (273.83) = -2.32, *p* = 0.011. Cohen's *d* (*d* = 0.25) indicates that this is small effect size.

An exploratory analysis was conducted to investigate whether consumers of homes built to a high-performance certification rated the overall quality of the home they purchased differently. An independent samples *t*-test revealed that respondents with homes built and certified to a high-performance standard (*M* = 4.51, *SD* = 0.75) rated the quality of their home significantly higher than did those with homes not certified to a high-performance standard (*M* = 4.31, *SD* = 0.78), *t* (364) = -2.36, *p* = .01, Cohen's *d* = 0.26.

Figure 5

Mean Likeliness to Recommend Ratings by Home Price
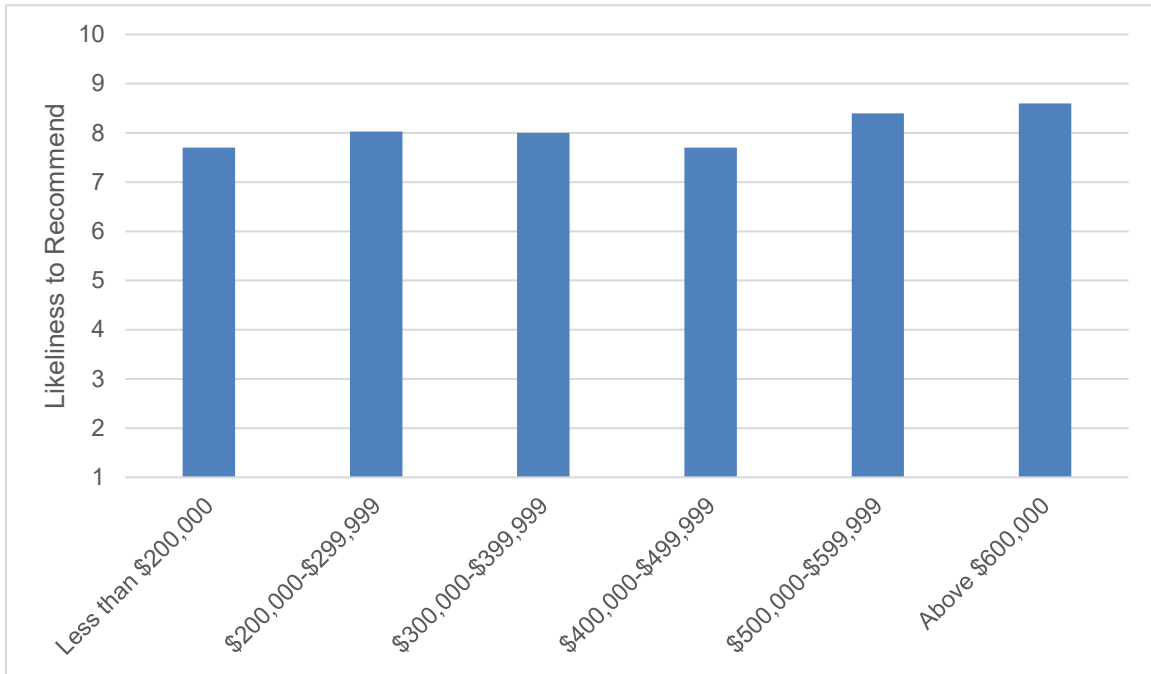
RQ3: What Is the Relationship Between Consumers' Likeliness to Recommend a Homebuilder and Consumers' Rating of Overall Home Quality?

To answer RQ3, a correlation analysis was conducted. The correlation analysis revealed a strong, positive correlation between the perceived quality of the home and consumers' likeliness to recommend a homebuilder, $r = .75$, $p < .001$.

RQ4: Does High-Performance Certification Moderate the Relationship Between Consumers' Overall Home Quality Rating and Consumers' Likeliness to Recommend Rating?

To provide an initial descriptive answer to this research question,

correlation analyses were conducted for each group: those with homes certified

to high-performance standards and those with homes that were not certified to

high-performance standards. For both consumers with high-performance certified

homes and those without, there was a strong positive correlation between

perceived quality of the home and likeliness to recommend a homebuilder, $r =$

.76, $p < .001$ and $r = .75$, $p < .001$ respectively. Next, multiple linear regression

was conducted to evaluate the moderating effect of high-performance

certification. The results of the multiple linear regression show that the

moderating effect of high-performance certification were not statistically

significant (see Table 2). That is, the relationship between customers' quality

ratings and their likeliness to recommend a builder did not depend on whether

the homebuilder was certified in high performance building.

Table 2

*Summary of Regression Results for the Prediction of Likeliness to Recommend
as a Function of Homebuyer Perceived Quality and High-Performance
Certification*

Variable	B	95% CI	β	*t*	*p*
Intercept	-1.81	[-2.84, -0.78]		-3.45	< .001
Overall Quality Rating	2.24	[2.00, 2.47]	0.78	18.68	<.001
Certified High Performance	1.38	[-.055, 3.30]	0.29	1.41	.16
Overall Quality Rating X Certified High Performance	-0.29	[-0.71, 0.14]	-0.28	-1.33	.19

Note. $R^2 = .57$. CI = Confidence interval for B.

RQ5: Does Builder Size (Local / National) Moderate the Relationship Between Consumers' Overall Home Quality Rating and Likeliness to Recommend?

Correlation analyses were conducted for each group of interest. The correlation (r) between homebuyers' perceptions of the overall quality of their home and their likeliness to recommend their builder was .71 ($p < .001$) for those whose builders were locally based and .76 ($p < .001$) for those whose builders were nationally based. Further regression analysis showed that homebuyers' perceptions of overall quality were related to their likeliness to recommend a builder. However, the nonsignificant interaction term (Quality X Builder Size) showed that the scope of the builder's business (i.e., local vs. national) did not moderate this relationship (see Table 3).

An exploratory analysis was conducted to examine whether consumers of local or national homebuilders rated their likeliness to recommend the homebuilder differently. In other words, does consumers' likeliness to recommend differ as a function of homebuilder scope (local vs. national)?

Table 3

Summary of Regression Results for the Prediction of Likeliness to Recommend as a Function of Homebuyer Perceived Quality and Builder Scope

Variable	B	95% CI	β	t	p
Intercept	-1.41	[-2.60, 0.32]		-1.54	.12
Overall Quality Rating	2.08	[1.76, 2.40]	0.74	12.71	<.001
Homebuilder Scope	0.96	[-1.82, 2.01]	0.02	0.10	.92
Overall Quality Rating X Quality Rating	.01	[-0.42, 0.44]	0.01	0.03	.97

Note. R^2 = .54. CI = Confidence interval for B.

An independent samples t-test revealed no statistically significant differences in the mean likeliness to recommend score of homebuyers whose builders were local (M = 8.15, SD = 2.11) versus those whose builders were national (M = 7.93, SD = 2.25), t(321) = 0.945, p =.17 (See Figure 6).

Figure 6

Mean Likeliness to Recommend Ratings by Homebuilder Scope
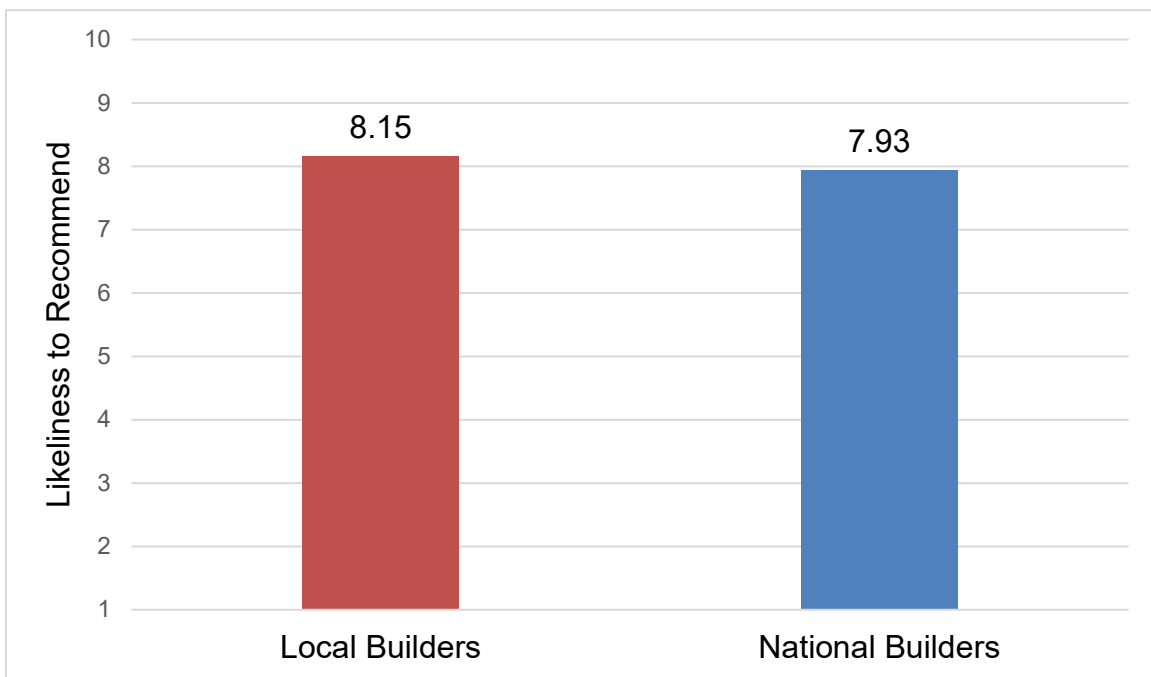
Note. Means were not statistically different, p > .05.

A second exploratory analysis was conducted to investigate whether consumers of local versus national homebuilders rated the overall quality of the home they purchased differently. That is, do consumers of national vs. local homebuilders rate the overall quality of their home differently? An independent

samples t-test revealed that those who used a builder with a local scope (M = 4.47, SD = 0.72) rated the quality of their home significantly higher than those whose homes were built by builders with a national scope (M = 4.30, SD = 0.81), t (321) = 2.01, p = .023, Cohen's d = .22. See Figure 7.

Figure 7

Mean Overall Quality Ratings by Homebuilder Scope
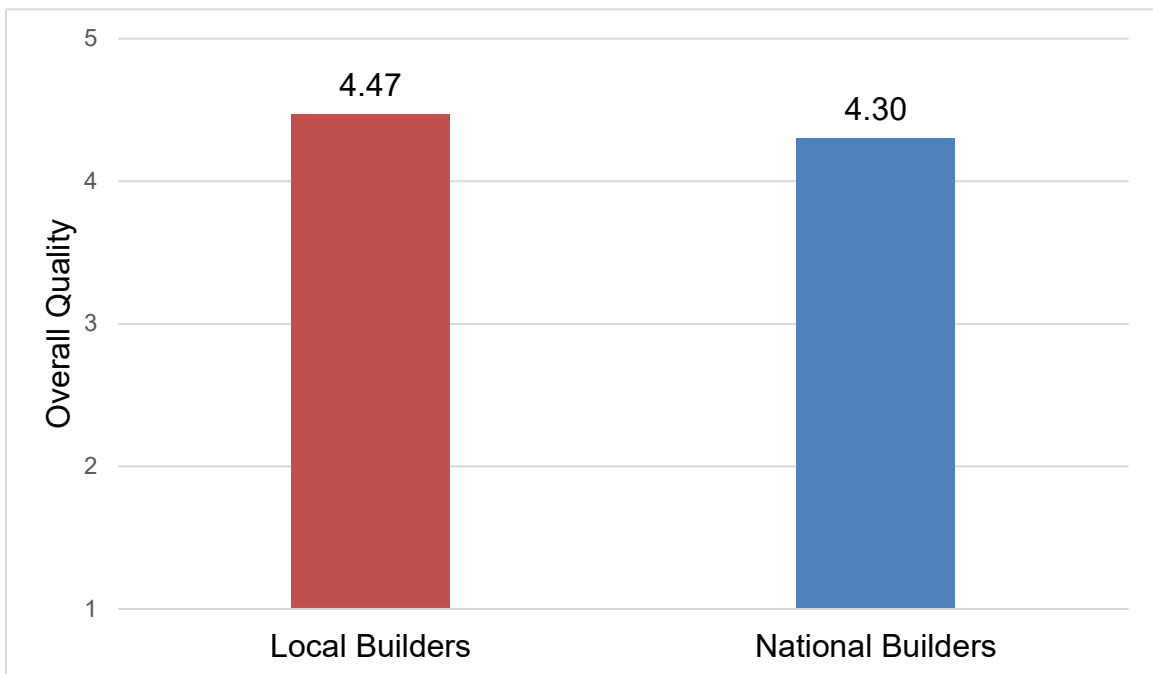
Note. Means were statistically different, p < .05.

RQ6: What Reasons Do Consumers Provide for Their Likeliness to Recommend Rating?

Qualitative data analysis was used to examine the reasons consumers provided for their numeric likeliness to recommend ratings. Six predominant topics (codes) emerged from consumers' open-ended responses. These were:

1) Experience with the building process

2) Quality

3) Schedule

4) Warranty

5) Communication

6) Price

Table 4 provides the coding frequency for each topic along with example responses that reflected either positive appraisals or negative appraisals of the homebuilding experience. Figure 8 illustrates the response valence and frequency by coding theme for the qualitative responses.

Table 4

Coding Guide for Responses to Open-Ended Question

Coding Topics	Response Frequency	Sample Responses: Positive	Sample Responses: Negative
Experience With the Building Process	41%	It was a great experience and I love my house	The builder we chose was hard to work with and he didn't live up to his promises
Quality	29%	The work that the builder done was near perfect. The home turned our way better than I even expected	Poor craftsmanship, like loose tiles and uneven foundation
Schedule	8%	I love how fast the house was built	The process took far too long
Warranty	7%	Even the issues that we've had after moving in have been taken care of immediately	He did not stand behind his warranty
Communication	5%	They have good communication and seem to want things to be right	He was okay but not good at communication
Price	4%	Great prices	The contractor did not tell us all the "extra" costs involved

Figure 8

Response Valence and Frequency by Coding Topic
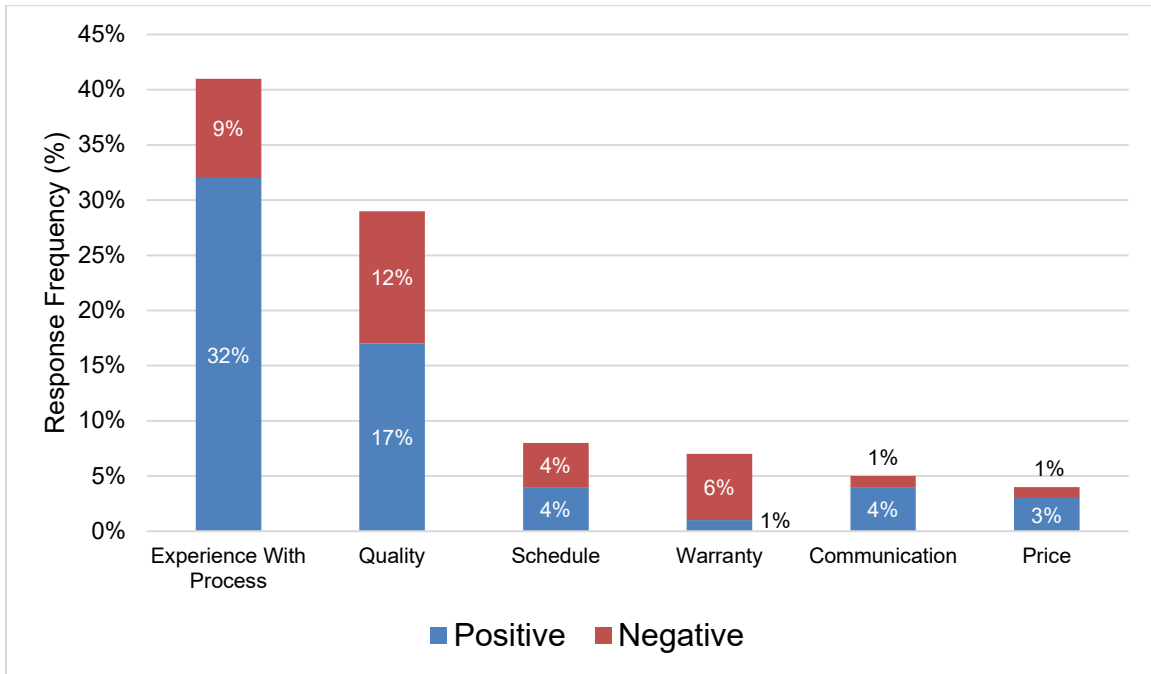
The six topics developed from the open-ended responses provide greater insight into the dimensions of importance to consumers of homebuilders in this study. The topics reveal that consumers in this study base their likeliness to recommend rating in large part on to their experience with the homebuilding process and the perceived quality of the home. Most responses related to two topics: experience with the building process and quality. These two topics accounted for 70 percent of the content in the coded responses. Of the six topics, each received more positive comments than negative except for "Schedule," where the positive and negative comments were near equally frequent, and warranty, where the negative comments outweighed the positive by nearly 4 to 1.

In contrast, in the comments under the experience topic, positive comments outweighed the negative by the same margin. Positive comments represented only 58 percent of the quality topic responses.

Breaking down the positive and negative comment counts for each topic provides a weighting of responses giving further insight into the distribution of responses within each theme. Positive experiences with the homebuilding process dominated the open-ended responses particularly among the high likeliness to recommend ratings in the data.

Further analysis of the topics identified was completed by breaking down the positive and negative responses for each topic into themes. The themes developed were formed into unique analytic statements for each topic's positive and negative responses. The themes are described below.

For the topic related to experience with the building process, the positive theme that emerged referred to a process that is "simple" and "easy." On the other hand, consumers' responses that were negative tended to refer to issues of concern during the building process ranging from too many subcontractors to not enough choices, and subsequent distrust of the builder/team.

For the topic of quality, the positive theme that emerged was a clear perception that the craftsmanship of construction was good and perhaps more significantly, that the homebuilder was willing to stand behind the craftsmanship. A consumer perception of "cheap" products used in construction along with the

homebuilder "cutting corners" resulting in poor workmanship dominated the negative theme associated with quality.

The theme that emerged from the positive comments for the topic of schedule was that homebuilder deadlines were met or exceeded as promised by the homebuilder. The negative theme that emerged for the schedule topic was that construction took longer than expected and often included delays.

The positive theme that emerged from the topic related to warranty focused on the homebuilder being responsive to handling warranty requests. The negative theme that emerged from the warranty topic describes difficulty getting the homebuilder to address warranty items and extended wait times.

For the topic of communication, the positive theme that emerged described a homebuilder that kept the consumer informed, communicated frequently, and responded to consumer questions quickly. The negative theme that emerged from consumer comments described the lack of communication from the homebuilder and a slow response to questions.

Further analysis of the topic of price revealed a positive them when consumers' perceived value for the price paid. The negative theme that emerged from this topic described consumer surprises with cost.

The themes provide a deeper understanding of the nature of consumers' positive and negative experiences with the homebuilding process that affected their likeliness to recommend ratings. The analytical statements in the description of findings above offer more actionable expressions of the data. Using these

analytic statements, the researcher developed a questionnaire that can be utilized by homebuilders to identify potential discussion topics with consumers (see Appendix C) which may provide an opportunity to set or reset the consumers' expectations regarding the building project. This questionnaire might also help the homebuilder identify consumers who might be more challenging and/or less likely to recommend them after the completion of the building project.

Intersecting Likeliness to Recommend with Qualitative Themes

The review of the qualitative responses provides meaningful insight, particularly when cross-referenced with the likeliness to recommend rating. The distribution of likeliness to recommend scores was skewed to the higher end of the 0 – 10 scale as see in Figure 9. Of the 366 responses to the survey, only 40 respondents scored their likeliness to recommend at a 5 or below and less than one third of the respondents scored likeliness to recommend at 7 or below.

In the bar graph illustrating the distribution of likeliness to recommend ratings, over 70 percent of respondents scored likeliness to recommend at 8, 9, or 10. Interestingly, those scoring 7 and 8 (i.e., those who would be classified in the "passive" category of the NPS methodology) make up nearly 30 percent of respondents.

Figure 9

Illustration of the Distribution of Likeliness to Recommend Ratings
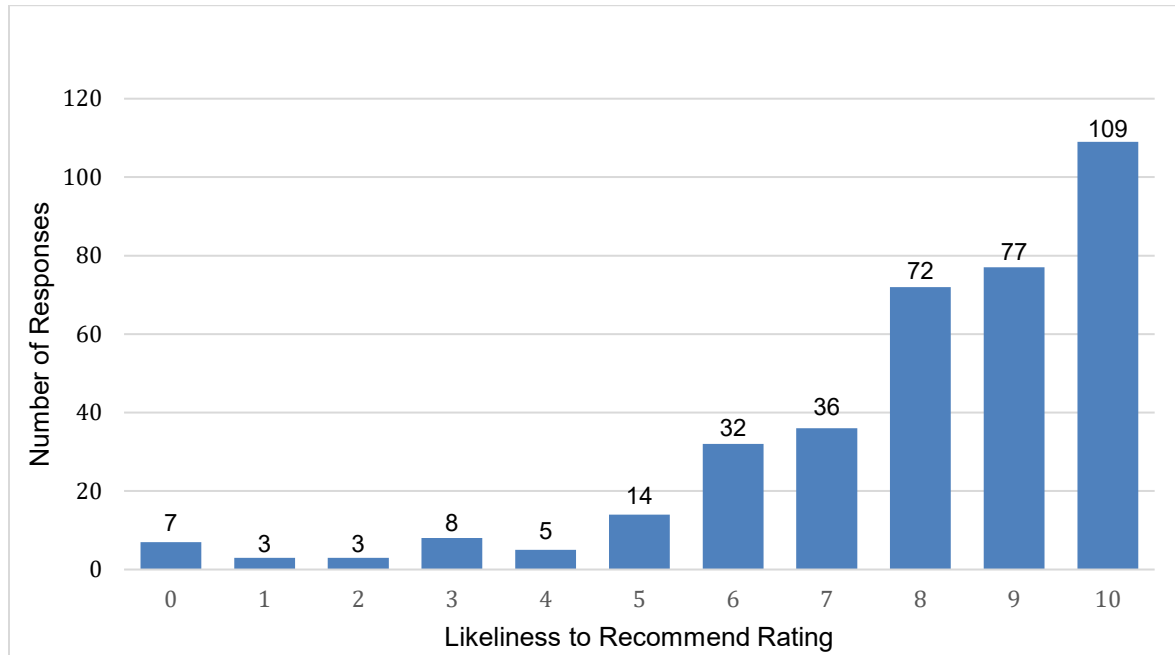
As expected, lower likeliness to recommend scores corresponded with generally negative qualitative responses (i.e., ratings of 6 and lower). For example, of the respondents rating the likeliness to recommend a 5 or below, only two responses contained both positive and negative comments. In both instances, the positive comment referred to the home plan, and the negative comment referred to the homebuilder. Negative comments continued to dominate the responses rating likeliness to recommend at 6 and 7, although positive comments increased in frequency. Even as positive comments outnumbered negative among customers who rated their likeliness to recommend a homebuilder as a 7 or 8, several individuals still provided negative evaluations in their explanations of their ratings. For example, among those who ratings their

likeliness to recommend as an 8 out of 10, several explanations conveyed dissatisfaction: "he cut a lot of corners," "the process could have been better," "still have things that need to be fixed after closing," and "structural issues with the houses they build."

CHAPTER 5: DISCUSSION

This study is the first in over two decades to investigate consumer perceptions of homebuilders and serves as a starting point to improve the understanding of the many variables that might contribute to consumers' perspectives of homebuilders in several contexts. As will be discussed below, the study identifies shortcomings of the Net Promoter Score methodology when applied to the homebuilding industry and identifies alternative approaches to research consumer perceptions of homebuilders. The study also identifies six dimensions of influence on consumers' likeliness to recommend a homebuilder. The following discussion explores the key findings of this study more fully.

Which Characteristics Are Related to Likeliness to Recommend?

Home Price

The first research question of interest in this study involved the relationship between home characteristics (i.e., price) and consumers' likeliness to recommend their homebuilder. Based on anecdotal evidence, I hypothesized that there would be a positive relationship between likeliness to recommend and home price. In my homebuilding business, I find that consumers of more expensive homes are often more critical with their expectations of quality which I relate to likeliness to recommend a homebuilder. While no statistically significant difference was found in recommendation ratings based on home prices in this study, future investigations are warranted. The survey instrument used in this study included only six price range choices for respondents. The range of these

responses may not have been sufficient to identify any significant relationship between likeliness to recommend and home price. Four home price categories were narrow with $99,999 between upper and lower limits for the price range choices from $200,000 to $599,999. The lowest price range choice represented less than $200,000 and the highest price category was above $600,000. These choices may not have provided enough range to identify a significant relationship between likeliness to recommend and home price.

Selecting different home price ranges to represent an overall broader range of prices may yield different findings. A broader range may uncover some underlying relationships between home price and likeliness to recommend. Additional items, such as respondent income range, might also be incorporated into future studies to provide insight into how consumers' financial situation might be linked to likeliness to recommend.

High-Performance Homes

A second objective of this dissertation was to examine whether consumers' likeliness to recommend ratings vary as a function of the high-performance certification of the home. The analysis revealed that consumers of homes certified to a high-performance standard (Energy Star, LEED for Homes, etc.) are significantly more likely to recommend the homebuilder than consumers of homes not certified to a high-performance standard. From my anecdotal experience building high-performance certified homes for over two decades, I expected to find such a relationship. The confirmation of this relationship has

broad implications including a shift among homebuilders toward building and certifying high-performance homes.

Some homebuilders resist building and certifying homes to high-performance standards. Their resistance to building to high-performance standards can be evident in various ways. For example, many builders feel that high-performance construction is more costly and complicated than simply meeting the building code. While there is some truth to this view, the reality is that building and certifying to high-performance has only minor differences from building to code [cite]. There is also a perception among home builders that innovation has a greater cost than the status quo without providing a balanced return on investment (Koebel et al., 2003). Results of this study showing the increased likeliness to recommend a homebuilder for homes certified to high-performance standards could convince more homebuilders to embrace innovation and offer high-performance certified homes.

The relationship between likeliness to recommend and high-performance home certification led me to further explore the relationship between high-performance home certification and consumers' home quality rating. As expected, a similar pattern emerged. Specifically, consumers of homes certified to a high-performance standard rated their home quality significantly higher than did consumers of non-certified homes.

This significant difference, along with the similarly higher consumer recommendation ratings among those whose builders had high-performance

home certification suggest a substantial opportunity for homebuilders. By building and certifying homes to high-performance standards, homebuilders can potentially influence both consumers' perceptions of the quality of their home and their likeliness to recommend a builder. These findings have implications for several areas of the homebuilding industry. They represent an opportunity for high-performance building certification programs to market to homebuilders using these findings to support the business case for building better homes. The findings provide solid evidence to builders of the business opportunities afforded through building homes to high-performance standards. Homebuilders who embrace the opportunity to improve consumers' perceptions through high-performance construction and certification may experience higher referrals, improved quality ratings, and overall positive business results.

Various high-performance building certification standards have demonstrated both environmental and consumer benefits including reduced negative environmental impacts through lower energy consumption, reduced greenhouse gas emissions, and improved durability, along with increased occupant comfort and health (U.S. Environmental Protection Agency (n.d.), U.S. Green Building Council (n.d.)). The results of this study reinforce these high-performance home certification program claims of benefits to consumers. Consumers presumably would not rate their likeliness to recommend significantly higher if they did not perceive additional benefits of buying a certified high-performance home.

These results also support the claims by some high-performance building advocates for the potential for increased homebuilder success by building and certifying high-performance homes (Rashkin, 2021). If homebuilders understand the connection between certified high-performance homes and improved consumer perception (i.e., higher perceived quality and greater likeliness to recommend), they may take actions that shift the industry to one that engages in more sustainable homebuilding practices.

Relationship Between Perceived Home Quality and Likeliness to Recommend

As expected, a strong positive correlation emerged between consumers' rating of overall home quality and their likeliness to recommend a homebuilder. While the relationship between these variables may seem logical, confirming their close relationship can impact homebuilder efforts to improve consumer recommendations by enhancing the perception of home quality. This has implications for both homebuilders and consumers. The literature indicates that greater consumer recommendations of businesses result in positive business results. For example, more homebuilders may undertake quality improvements or emphasize the quality of their homes to positively influence consumer recommendations. If homebuilders make no changes to their building practices but focus only on communicating the quality elements of the homes they build, consumers will have improved information to use when comparing homebuilders. If homebuilders make improvements to the quality of the homes they build,

consumers in the marketplace will benefit from the improved quality. Homebuilders should also benefit from improved quality through lower warranty expenses.

This contribution supports the suggestion that a quality revolution in the homebuilding {construction} industry is needed (McKenzie & Company 2017). An increased emphasis on construction quality may bring with it an improvement in productivity, which is an area of needed progress within the global construction industry identified by McKenzie & Company (2017).

Builder Characteristics as Moderators

A separate but related question is whether certain home or builder characteristics might moderate the relationship between consumers' perceptions of quality and their likeliness to recommend a homebuilder. The first characteristic explored was builders' high-performance home certification status. High-performance certification of new homes may require higher new home quality and may represent an opportunity for builders to signal the improved quality of the homes they build and consequently improve consumers' rating of home quality.

Although the responses (N = 366) to the survey instrument provided adequate statistical power, it bears noting that only 32% of respondents reported that their homebuilder was high-performance certified. A dataset with a larger overall sample size and a greater representation of high-performance certified homes might reveal different relationships. High-performance home certification

may also moderate the relationship between other variables of interest and consumers' likeliness to recommend their homebuilder.

A second characteristic that was examined as a possible moderate of the relationship between home quality ratings and likeliness to recommend was the size of the homebuilding company. Builder size (local vs. national) was not a significant moderator of the relationship between consumers' overall home quality rating and their likeliness to recommend a homebuilder. I conducted an additional exploratory analysis to investigate whether consumers of local or national homebuilders rated their likeliness to recommend the homebuilder differently. The comparison of means revealed no significant difference in likeliness to recommend between local and national homebuilders. I subsequently investigated whether consumers of local versus national homebuilders rated the overall quality of their home differently revealed a significant relationship. Consumers of local homebuilders rated their overall home quality significantly higher than did consumers of national homebuilders, although the effect size was small. Nevertheless, this significant relationship may point to an opportunity for local homebuilders to further emphasize the quality of their homes.

The survey item used to assess builder size likely influenced the findings from these analyses. Respondents were provided three choices, with the following parenthetical definitions: *Local* (they only build in a small region), *National* (they build homes nationwide), and *Do not know*. These response

options, though face valid, might introduce ambiguity. For example, consumers may vary in their knowledge of their builder, as does their individual interpretation and judgment. If a local builder builds in a small region, is this truly a region (Southeast or Northwest)? Or is a small region a state, or even a city? Do these accurately describe the size of a builder?

In future research, different builder demographic questions might be of more use. Common industry descriptors for homebuilders include custom builders, often used to describe builders who construct custom plans for each client, and production builders, often describing builders who offer only a small portfolio of standard home plans from which to choose. Generally, custom builders are thought to build fewer numbers of homes in a smaller geographic area while production builders represent a larger volume of homes built and often build across a larger geographic area. Anecdotal evidence suggests that a smaller size custom builder provides a more consumer-centric experience resulting in higher likeliness to recommend ratings along with higher perceptions of home quality.

Understanding consumer perceptions as they relate to the type of builder (custom versus production) would provide further insight in addition to builder size. If builder size is a variable of interest, rewording the survey item to clearly define builder size would provide more accurate data. For example, defining builder size by providing more concise geographic examples (state, multiple states, portions of a single state, nationwide) or assessing size by the number of

homes a builder completes annually or the number of communities the builder offers would provide more useful data for analysis.

Understanding the "Why" Behind Consumers' Likeliness to Recommend Ratings

This was among the first study to use a mixed methods approach to shed light on the reasons why consumers select a particular level of likeliness to recommend a homebuilder. The topics and themes that emerged from the open-ended responses explaining "why" consumers choose their rating of likeliness to recommend their homebuilder revealed six topic areas for consideration. Two of these areas were represented across 70% of the responses: experience with the building process and home quality.

Both leading topics and their corresponding themes represent opportunities for homebuilders. The responses to the experience with the building process topic were overwhelmingly positive and appeared to relate the most with aspects of customer service. Of all responses to this open-ended question, 41% reflected this topic. In other words, consumers who had a positive experience throughout the building process were willing to comment about it. The analytic statement developed to describe the positive responses to this topic is: *A process that is "simple" and "easy."* Consumers whose building experience was negative also made their feelings known. These negative responses can be described by this statement: *Issues with the process ranging from too many subcontractors to not enough choices, and distrust of the builder/team*.

Consumers were more likely to explain their likeliness to recommend rating in terms of their experience with the homebuilding process more than any other topic. This finding suggests that homebuilders who can provide an experience that is simple and easy for consumers will earn more recommendations.

The second leading theme, quality, was reflected in 29% of responses to the open-ended question. Recall that consumers of high-performance certified homes rated their home quality significantly higher than did consumers of non-certified homes. It is not surprising that one of the most prevalent topics expressed by consumers purchasing one of the most expensive products they own is quality. The theme representing positive responses regarding quality indicate consumers' *positive perception of the craftsmanship and the builder's willingness to stand behind it.* The numerous negative responses to the topic of quality indicate that these consumers had the *perception of "cheap" products used in construction and the builder "cutting corners" with poor workmanship*.

These results emphasize the need for homebuilders to communicate, emphasize, and demonstrate not only the quality included in the homes they build, but their willingness to stand behind their homes if they want to earn a consumer's recommendation. Connecting this with the evidence showing that high-performance certified homes result in higher home quality ratings by consumers reveals compelling evidence for building and certifying high-performance homes to reinforce consumer perception of home quality.

The topics ranking third in coding frequency, schedule, illustrate elements related to consumer satisfaction that most builders have experienced directly. Staying on schedule is important to consumers, as summarized in the theme for positive comments on schedule: *deadlines are met or exceeded as promised*. Consumers who made negative statements regarding schedule were captured in the theme: *Construction took longer than expected and often included delays.* Setting clear expectations regarding construction schedules and delivering on them can positively impact consumers likeliness to recommend a homebuilder. Interestingly, staying on schedule is also important for homebuilder cash flow and business success. The most successful builders are those who excel at running a schedule (Sedam, 2011).

Warranty service and support are often identified by consumers as being important in their homebuying experience. The positive theme for the topic of warranty, *the homebuilder was responsive to handling warranty requests*, emphasizes that the responsiveness to warranty requests is of utmost importance to consumers. The immediacy of warranty response is critical, not whether warranty requests happen at all. Warranty actions viewed as negative by consumers are summarized in this theme: *It took a long time and/or was difficult to have the builder address warranty items*. The takeaway for homebuilders from the comments in this theme is that warranty items will happen, and how a homebuilder responds to them will likely determine whether they result in a positive or negative consumer evaluation.

Other themes that emerged less frequently in the data were related to communication and price. Anecdotal evidence indicates that good communication has a positive effect on consumer perception. We are all consumers and can likely reflect on positive experiences that were facilitated by clear communication during a purchase experience. The homebuilding process is extensive and time-consuming. Homebuilding consumers desire good communication throughout this complex process of building a new home as described in the positive theme for communication: *the homebuilder kept the consumer informed, communicated frequently, and responded to questions quickly.* The opposing negative theme for communication, *lack of communication and builder was slow to respond to questions*, describes an experience that most of us, as consumers, would agree with.

Only 14 responses referred to home price as a reason for the likeliness to recommend rating, and most of these reflected positive perceptions. The theme developed from the positive comments in the topic of price was that the *consumer perceived value for the price paid*. Interestingly, the theme developed from the negative comments related to price was not related to value, but that the *consumer experienced surprises with cost*. The takeaway here for homebuilders is to sell the value of the home and minimize cost surprises.

The greater number of positive comments on price may be related to several factors. Most of the participants in the survey used for this research were likely aware of the price of their new home when they signed the contract to have

it built. If they knew the price up front, there would be little reason to have objections to price after completion. The survey was also administered prior to the extreme industry supply chain issues and subsequent price fluctuations in late 2020 through 2022. If the survey had been administered during these extreme price fluctuations, more negative comments related to price would have been more likely.

Integrating Quantitative Recommendation Ratings and Qualitative Data

An interesting finding upon review of the combined quantitative and qualitative data in this study is the number of respondents scoring 7 and 8 (i.e., those who would be classified in the "passive" category of the NPS methodology) in likeliness to recommend. These respondents make up nearly 30 percent of the total. This is remarkably like Korneta's (2014) study of retail customers that projected the probability of approximately 28 percent of customers being in the passive category (7 or 8 score of likely to recommend). In this study, the open-ended responses of these respondents provide meaningful insight for homebuilders, that would otherwise be ignored using the NPS methodology.

The data integration phase of this mixed methods design offered useful insights about the experiences and perceptions that led consumers to assign different numeric ratings of their likeliness to recommend a homebuilder. Intersecting respondents' likeliness to recommend ratings with their open-ended responses revealed surprising results. The valence (positive or negative) of their open-ended response did not always align with the corresponding likeliness to

recommend rating. For instance, most of the open-ended comments by consumers who rated their likeliness to recommend at 6 and 7 were negative in valence. Although at the likeliness to recommend rating of 8, positive responses were more common than negative, negative comments were still present. These comments corresponding to a likeliness rating of 8 were surprising considering this rating being in the upper end of the 0-10 scale. Without considering the open-ended responses of these participants, I would have considered these scores to represent positive experiences, given the 0-10 point scale.

When combined with respondents' numeric likeliness to recommend ratings, the qualitative results suggest that homebuyers interpret the 0-10-point likeliness to recommend scale in different ways. If respondents considered a mid-scale rating to be neutral or indifferent, then reason would argue that ratings above 5, such as a 6 or 7, would be more positive than negative, contrary to the actual results.

One possible explanation for these negative comments despite seemingly high likeliness to recommend ratings may be that respondents have associated the 0-10 point scale with a traditional 0-100 academic grading scale. Socialization in school around a 10-point and/or 100-point scale might suggest that a score around 60 is a failing grade, 70 – 79 is average, and 80-100 is superior. Such an association might explain why people with scores of 7 and 8 on the likeliness to recommend scale provided negative comments about their

homebuilding experience. The negative responses from those with seemingly higher than average scores for likeliness to recommend represent meaningful and useful feedback for homebuilders. They also substantiate claims of the flaws of the Net Promoter Score as a single predictor of business success in the homebuilding industry. Recall that to calculate NPS involves exclusion of any likeliness to recommend ratings of 7 or 8 and does not incorporate any qualitative responses into the scoring methodology.

The skewedness of the likeliness to recommend scores toward the upper end of the scale and the associated negative open-ended responses for likeliness to recommend up to and including scores of 9 on the 0-10 scale highlight challenges with interpretation of the scale. Should a builder be pleased that a consumer rating their likeliness to recommend them at a 7 out of 10, for instance? Perhaps a scale of 1-4 would be more useful for interpretation. The range in qualitative feedback at each rating level of likeliness to recommend suggests that an abbreviated scale or a binary recommendation measure (i.e., yes/no) may be more helpful to homebuilders when combined with open-ended responses.

Strength, Limitations, Reliability, and Validity

This research is strengthened by the researcher's firsthand knowledge of the industry, having spent over 20 years as an active homebuilder and still active during the study.

This study provides meaningful insight into consumers' perceptions of homebuilders. Nevertheless, several limitations are worth noting. First, the study uses secondary data collected from surveys administered by two third-party survey organizations—Qualtrics and Home Innovation Research Labs. Researchers utilizing secondary data are unable to test and adjust the survey items before collecting data. Second, in the survey instrument, the anchors for the survey item for likeliness to recommend were undefined. The item simply asked, "On a scale from 0-10, how likely are you to recommend the homebuilder to a friend or colleague?" The ambiguity of this key survey item threatens the validity of the results.

Third, the survey was administered at random to respondents who met the survey criteria; however, the survey response data were non-normally distributed. The responses to the likeliness to recommend question were skewed. The majority of respondents indicated a likely to recommend score greater than 5 and few respondents indicated that they were unlikely to recommend (i.e., a score of 5 or less). The survey contained qualifying questions using skip logic that attempted to isolate respondents who had built a new home or bought a newly constructed home in the preceding year. The survey did not measure the time since completion of each respondent's home. The varying time since completion of the new home may have influenced the responses to the survey.

Fourth, the secondary data used in this study were from a cross-sectional survey design. Cross-sectional designs provide a snapshot of the sample at one point in time. A longitudinal study would provide greater insight into how consumer perceptions of homebuilders change from the builder selection phase, during the construction of the home, and after the consumer moves into the home. In addition, survey research designs may result in self-generated validity, which refers to any correlation between constructs that may result from respondents' observation of the structure of the survey and conclusions of the relationships between the measures of the survey (Feldman & Lynch, 1988). Data from a single cross-sectional survey may exhibit common method variance which threatens internal validity. Common method variance is spurious in nature and results in variance from the survey method instead of the constructs of interest (Podsakoff et al., 2003).

The data were collected from a random sample of home buyers from various sources in different geographic regions of the United States (the sample frame). This sampling method strengthens the external validity of the study. The external validity with this sampling method will not be as strong as a random sample from the entire population of U.S. home buyers, but since a sample frame of the entire U.S. population of homebuyers does not exist, this method will suffice. Nevertheless, the sampling methodology was limited in other ways.

The sample consists of buyers who had already purchased a newly constructed home or had a new home built. This introduces respondent bias from

their recent experience. It would be interesting to test how the findings of this study might change when applied to consumers who are shopping for a new home builder. Online surveys, by their nature, may not accurately represent some demographic segments of the population of interest as some members may be less likely to participate in an online survey due to access to technology or familiarity with technology. The sample is likely not representative of the population of interest due to the lack of an existing sample frame of all U.S. homebuyers. Representative descriptive statistics of the population of interest must be identified if inferences of the sample are to be made about the population of interest. Otherwise, inferences from the data can only be made about the sample populations. Known weaknesses of surveys include reactivity and coverage error. Coverage error will likely be reduced by the probability that consumers who have recently purchased new homes are more likely than the general population to have access to the internet. The coverage area will also be influenced by the sample frame of the study.

Construct validity is increased using the existing question from the NPS methodology (Reichheld, 2003). Using the item from this existing theory supports the construct validity of this study. However, using a single-item measure for likeliness to recommend can be a threat to validity as the complexities of consumers' likeliness to recommend a builder may not be fully explained by a single item variable. Internal validity is strengthened from the utilization of items from prior theory and research in the study. The adaptation of the survey items to

the home building industry is a potential threat to validity. The fact that the survey items were constructed by a market research firm primarily focused on the homebuilding industry strengthens the internal validity of the study. The open-ended question contained in the data will provide opportunities to identify additional independent variables that have not been considered.

SPSS 27 statistical software package was utilized as an additional measure to improve the statistical conclusion validity of the study. This software package allowed for easy and accurate modeling of the correlations between items and the interactions between the variables to determine the significance of the interactions in the study.

Significance and Future Research

One of the reasons for selecting the secondary dataset containing the likeliness to recommend question targeted for the calculation of net promoter score was to generate opportunities for future research. Since the NPS methodology is a popular tool used by many market research firms across many industries including homebuilding, it is likely that additional datasets containing consumer responses to the same question will be available for comparison to the results of this study and possibly future research. The literature indicates that people who responded with higher NPS scores were shown to be significantly more likely to respond to follow-up surveys (De Haan et al., 2015). This evidence would suggest that if other NPS data sets are identified, they may provide

additional avenues for follow up surveys containing new items including open-ended response questions.

The significance of this study is profound in the absence of any similar studies in the homebuilding industry. For an industry that contributes 15-18% of gross domestic product (National Association of Homebuilders, n.d.), residential housing has a surprising lack of published research related to consumers' perception of homebuilders. This study provides valuable insight into consumers' perception of homebuilders and serves as a guide for future research in this area.

One striking discovery from this study was the significant positive relationship between high-performance certification of new homes and consumers' likeliness to recommend a homebuilder. This significant relationship may have far reaching implications including beneficial environmental impacts and a reduced contribution from new home construction to climate change. Future research focused on further understanding this relationship may unveil additional benefits from growth in high-performance certified home construction. A deeper study of the barriers to homebuilder adoption of high-performance building is another area of future research that may reveal meaningful opportunities for the homebuilding industry.

This study calls into question the usefulness of an 11-point scale for assessing consumers' likeliness to recommend a homebuilder. The appropriate scale is related to what the researcher wants to know. If the degree of likeliness

to recommend is important, then a multi-option response scale might work best; however, the results of this study indicate that an 11-point scale leaves room for great variation in respondent interpretation. If only a willingness to recommend is important, then a binary (yes/no) item response option would be acceptable.

Based on the results of this study, the researcher recommends a 4-point scale for measuring likeliness to recommend (1 = would not recommend, 2 = unlikely to recommend, 3 = likely to recommend, and 4 = would definitely recommend). A four-point scale provides no midpoint, or "average" rating, forcing respondents to choose a positive or negative side of the scale. A four-point scale also provides respondents with some range for their rating. Ultimately, researchers should select the best tool to answer the research question of interest, keeping in mind that consumers vary in how they perceive response choices based upon numerous factors.

Regardless of consumer rating of likeliness to recommend and overall quality, open-ended responses from consumers provide valuable feedback for homebuilders. Any rating or score without such feedback is far less useful. A mixed methods design was critical to this finding.

Future research incorporating one of the simplified derivatives of likeliness to recommend combined with an open-ended question(s) would offer an interesting comparison to the findings in this study. The addition of targeted survey items related to the themes identified in this study will further develop insights into the elements of the consumer journey with homebuilding.

This study sets the stage for future research on consumers and the homebuilding industry. There is much to learn in the absence of meaningful published research and further understanding of the interactions and perceptions between consumers and homebuilders will reveal opportunities for improvement as an industry.

Recommendations for Homebuilders

Results from this research include several recommendations for homebuilders to consider to maximize consumer recommendations and positive reviews. Homebuilders who optimize their operations to provide the elements identified in this research should have an advantage in the marketplace over homebuilders who do not.

Growing pressures on the environment and the increase in global temperatures combined with a foreseeable increase in energy costs are resulting in a new set of economic realities for homebuilders and consumers. Building homes that are certified to high-performance standards such as ENERGY STAR, LEED for Homes, DOE Zero Energy Ready, and the National Green Building Standard, among other programs, is one way that both homebuilders and consumers can reduce their impact on the environment and reduce consumers' energy costs. The good news for homebuilders is that building homes certified to these standards seems to positively impact consumers' likeliness to recommend rating. While there is likely a learning curve for homebuilders to build these certified homes, the business opportunity is logical.

The clear takeaways from consumers' reasons for their likeliness to recommend ratings results in a prescriptive list of best practices homebuilders can follow if they desire to increase their customers' likeliness to recommend ratings. It is assumed that the higher consumers' likeliness to recommend rating of a homebuilder, the greater chances that a homebuilder will be recommended by a consumer, resulting in improved business opportunities. To maximize the chances to receive a higher likeliness to recommend rating from clients, homebuilders might follow these guidelines:

1) Provide a building process that is "simple" and "easy."

2) Set clear expectations with the client on the level and standards of quality provided and emphasize the homebuilder's commitment to stand behind the home.

3) Set clear expectations for the schedule and meet these expectations or exceed them.

4) Quickly respond to client warranty requests and make the process streamlined and easy for the client.

5) Keep the client informed, communicate frequently, and respond to client questions quickly.

6) Emphasize the value of the home to the client for the price paid. Typically, value can be expressed by describing the features and benefits to the client.

The questionnaire provided in Appendix C can be used as a tool for homebuilders to obtain consumer feedback that will enable the builder to identify the consumer's expectations related to the six guidelines above. An improved understanding of the consumer's expectations related to each of these guidelines will enable homebuilders to better clarify and set expectations for the building process. The results of the questionnaire may also allow homebuilders to identify potential mismatches between a consumer's expectations and the reality of the homebuilder's business model, avoiding a negative experience for both consumer and homebuilder. The use of this questionnaire by homebuilders first as a consumer screening tool, then as a tool to identify expectations, may provide benefit to homebuilders who desire to grow their business by referrals.

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APPENDICES

APPENDIX A

Commonly Used Loyalty Questions (Hayes, 2008)

1. Overall, how satisfied are you with COMPANY ABC?

2. How likely are you to recommend COMPANY ABC to friends or colleagues?

3. How likely are you to continue purchasing the same product and or service from COMPANY ABC?

4. If you were selecting a company (within the industry) for the first time, how likely is it that you would choose COMPANY ABC?

APPENDIX B

NPS Benchmark Study 2020 – Survey

S1 Thank you for agreeing to take part in this survey. Your opinions are vital in helping us understand the housing industry. Be assured that all of your responses will remain confidential. This survey should take approximately 5 minutes to complete.
Are you 18 years old or over?

○ Yes (1)

○ No (2)

S 0.0 What is your current housing situation?

○ Sharing an apartment or condo (2)

○ Staying in a hotel/motel (1)

○ Living in a house (3)

○ Other (Please specify) (4)

_____

S 0.1 Do you currently rent or own the home you are living in?

○ Rent (1)

○ Own (2)

○ Neither (4)

S 0.2 How long have you owned the home you are living in?

○ 0 - 12 months (1)

○ 1 - 2 years (2)

○ 2 - 5 years (3)

○ 5 - 10 years (6)

○ 10 - 20 years (4)

○ 20+ years (5)

*Skip To: End of Block If How long have you owned the home you are living in? =
2 - 5 years*
*Skip To: End of Block If How long have you owned the home you are living in? =
5 - 10 years*
*Skip To: End of Block If How long have you owned the home you are living in? =
10 - 20 years*
*Skip To: End of Block If How long have you owned the home you are living in? =
20+ years*

S 0.3 Which of the following describes the house you purchased?

○ Bought an existing home (previously owned) (1)

○ Bought a newly constructed home (2)

○ Built a new home (3)

○ Other (4) _____

*Skip To: End of Block If Which of the following describes the house you
purchased? = Bought an existing home (previously owned)*
*Skip To: End of Block If Which of the following describes the house you
purchased? = Other*

S2 Which of the following have you done in the past year? (Select all that apply)

- ☐ Bought or built a **new construction** home (1)

- ☐ Bought an **existing** home (previous owned) (2)

- ☐ Painted a room (3)

- ☐ Purchased new or replacement windows (4)

- ☐ None of the above (5)

Skip To: End of Block If Which of the following have you done in the pastyear? !=
Bought or built a new construction home

S3 How involved were you in the purchase of the new construction
home?   Note: If more than one new construction home in the past year was
purchased, answer for the **most recent purchase.**

- ○ I was the sole decision maker. (1)

- ○ I shared the decision making process with another person. (2)

- ○ I was not involved in the decision making process. (3)

Skip To: End of Block If Decision maker? = I was not involved in the decision
making process.

S4 When did you receive the keys/take possession of your new home?

- ○ At contract writing (1)

- ○ Once doors were installed (2)

- ○ Once permits were secured (3)

- ○ After closing (4)

- ○ Don't know (5)

Skip To: End of Block If When did you rec. keys/take possession? != After closing

S5 Who was your primary contact for buying/building the home?

○ Electrician (1)

○ Plumber (2)

○ Framer (3)

○ Painter (4)

○ None of the above (5)

Q1 On a scale from 0-10, how likely are you to recommend the home builder to a friend or colleague?

○ 0 (0)

○ 1 (1)

○ 2 (2)

○ 3 (3)

○ 4 (4)

○ 5 (5)

○ 6 (6)

○ 7 (7)

○ 8 (8)

○ 9 (9)

○ 10 (10)

Q2 Tell us a bit more about why you chose ${Q1/ChoiceGroup/SelectedChoices}

_____

D1 What age group best defines you?

    ○ 18-23 years (1)

    ○ 23-38 years (2)

    ○ 39-54 years (3)

    ○ 55 years or older (4)

D2 In which state is the home you purchased?

▼ Alabama (1) ... Home is not in the United States (52)

D2.1 Please enter the city AND county where the home was built:

_____

Page Break

D3 What is the name of the company that built your home?

_____

Page Break

D4 How would you describe the size of your builder?

    ○ Local (they only build in a small region) (1)

    ○ National (they build homes nationwide) (2)

    ○ Do not know (3)

Page Break

D5 Which of the following apply to the home (select all that apply):

- ☐ Home was built on my own land (1)

- ☐ Certified High-Performance Home (e.g., ENERGY STAR, LEED for Home, etc.) (2)

- ☐ Spec or inventory home (home was already built when I purchased it) (3)

- ☐ I selected my lot and floorplan in a new home community (4)

- ☐ Mobile, Manufactured, or Modular home built in factory (6)

- ☐ ⊗Not sure / none of the above (5)

D6 What price did you pay for the home?

- ○ Less than $200,000 (6)
- ○ $ 200,000 – $299,999 (1)
- ○ $ 300,000 – $399,999 (2)
- ○ $ 400,000 – $499,999 (3)
- ○ $ 500,000 – $599,999 (4)
- ○ Above $600,000 (5)

D7 Which of the following best describes the home?

- ○ Single Family Detached home (1)
- ○ Townhouse, Duplex, or Triplex (2)
- ○ Mobile/Manufactured Home (all types of foundation) (3)
- ○ Condominium or Apartment (5)
- ○ Other (RV, houseboat, dormitory, hotel, etc.) (6)
- ○ Not Sure (7)

D8 Was this your first home purchase?

○ Yes (1)

○ No (2)

Q3 How would you rate the **overall quality** of the home you purchased?

Home Quality (1)   ☆   ☆   ☆   ☆   ☆

Q4 Now rate the **service you received** at each stage of the process (if it applies):

Sales process (through contract signing) (1)   ☆   ☆   ☆   ☆   ☆

Design process (selecting options & finishes) (2)   ☆   ☆   ☆   ☆   ☆

Financing (3)   ☆   ☆   ☆   ☆   ☆

During construction of the home (4)   ☆   ☆   ☆   ☆   ☆

Warranty repairs (after closing) (5)   ☆   ☆   ☆   ☆   ☆

Questionnaire Developed from Qualitative Themes

1) Do you anticipate an issues with the construction of your new home? If so, what?

2) How would you best describe the workmanship that you expect in your new home?

3) How do you respond to unexpected surprises when making a large investment?

4) Would you rather someone provide you with the most optimistic projection of a schedule or the worst-case scenario?

5) How do you prefer to receive communication regarding your project? (select all that apply)

     a. Weekly e-mail updates
     b. Weekly phone calls
     c. Random updates
     d. Call only when you need something from me
     e. E-mail only when you need something from me
     f. Text only when you need something from me
     g. Other:_____

6) How would you describe the best value from you new home project?