Welding the Web: Brand Propensity and Execution Governance in Legacy Building Materials Channels – Evidence from Individual House Builders

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Abstract:

This study investigates how digitally mediated consumer engagement shapes brand decision outcomes in high-physicality, safety-critical product categories where transactions remain offline and execution is institutionally governed. Focusing on individual house builders (IHBs) in India's building materials market, it examines how consumers use digital tools to form confidence in brand choice, and how this confidence is subsequently tested, constrained, or redirected at the point of execution.

Building on qualitative fieldwork and staged quantitative analysis, the study conceptualizes Brand Propensity (BP) as a brand confidence formation construct—a pre-execution confidence state formed through digital engagement prior to market interaction. Using a sequential mixed-methods design—comprising qualitative exploration, diagnostic regression analysis (Stage ABC), and large-scale structural equation modeling (Stage D)—the research evaluates a mediated and conditioned pathway linking MarTech usage, Brand Propensity (BP), and Branded Purchase Realization (BPR), while accounting for validator influence, demographic filters, and budgetary constraints.

Findings reveal a pronounced formation–execution asymmetry in the consumer journey. Digitally mediated engagement consistently strengthens Brand Propensity and enables consumers to arrive at offline channels with pre-formed brand inclinations. However, large-sample structural models show that this confidence state, while necessary for acting with intent, is not sufficient to guarantee realization. Execution outcomes are governed primarily by institutional and contextual forces—most notably engineers, masons, dealers, and financial feasibility—operating downstream of digital cognition. Validator consultation reinforces confidence formation but only weakly conditions realization, while execution-stage switching pressures and budget pressure emerge as meaningful constraints that frequently redirect outcomes, generating systematic leakage between intent and realized brand choice.

The study contributes to consumer decision theory by reframing digital influence as a mechanism of confidence formation rather than transaction enablement, and by introducing Brand Propensity as a purpose-specific confidence mediator positioned at the formation–execution interface. It extends consumer journey and omnichannel theory by demonstrating that digital and physical channels perform asymmetrical roles: digital ecosystems structure cognition and stabilize preferences upstream, whereas institutional actors govern feasibility, validation, and realization downstream. Managerially, the findings suggest that firms in legacy,

high-risk categories should prioritize enabling consumer clarity and execution assurance—through credible information, validator alignment, and feasibility transparency—rather than relying on late-stage persuasion alone. The study offers implications for omnichannel strategy, institutional accountability, and policy design in emerging markets and other high-stakes consumption domains.

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Chapter 1: Introduction

Digital Influence, Consumer Confidence, and Execution Governance in Individual House Building

1.1 Background and Motivation

Over the past two decades, digital technologies have fundamentally reshaped how consumers search for information, evaluate alternatives, and construct purchase decisions. Search engines, social platforms, video-based learning, messaging applications, and mobile interfaces have reduced information asymmetries, enabling consumers to independently explore brands, compare options, and form preliminary judgments before engaging with sellers or intermediaries. Consumers increasingly participate in markets as informed and deliberative actors rather than passive recipients of firm-initiated persuasion.

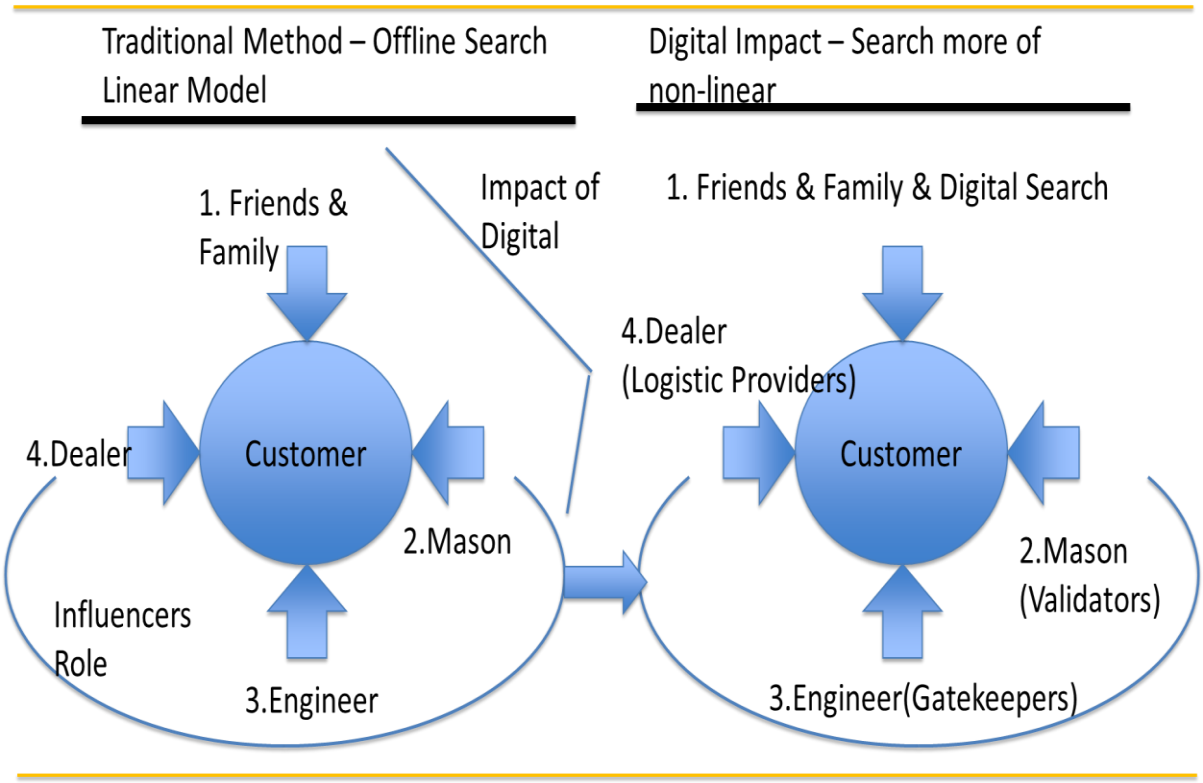
This transformation has been widely documented across marketing, information systems, and strategy research. Prior studies show that digital technologies expand consideration sets, accelerate information diffusion, and reshape expectations around transparency, responsiveness, and control (Hoffman et al., 2022; Kannan & Li, 2017; Verhoef et al., 2015). However, the behavioral and market consequences of digital transformation vary markedly across product categories. In settings characterized by high physicality, technical complexity, safety implications, and irreversible consequences, digital tools shape decision cognition without replacing offline execution.

Building materials exemplify such a category. Digital platforms function primarily as informational and confidence-building infrastructure, while purchase realization continues to depend on engineers, masons, contractors, and retail dealers. This creates a distinctive decision environment in which search is digitally anchored, but execution remains institutionally governed. Understanding how consumers navigate this dual structure—forming preferences digitally while executing purchases through offline actors—therefore constitutes the central motivation of this research.

In this study, this stabilized confidence state—formed through digitally mediated evaluation prior to market interaction—is conceptualized as **Brand Propensity (BP)**, representing a digitally informed pre-execution confidence orientation toward a focal brand. Brand Propensity serves as the central cognitive mechanism linking digital engagement to downstream purchase

outcomes, positioned at the interface between formation (digital and cognitive) and execution (institutional and physical).

Figure 1: Shift from Sequential Offline Search to Digitally Anchored, Validator-Mediated Journeys



1.2 Dominant Perspectives on Technology Adoption

A substantial body of research examines why and how individuals adopt new technologies. Among the most influential contributions is the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) and its extensions (Venkatesh et al., 2012), which identify performance expectancy, effort expectancy, social influence, and facilitating conditions as key determinants of technology adoption and continued usage.

While these frameworks provide a strong foundation for understanding whether technologies are used, they are not designed to explain how technology use reshapes consumer cognition, brand orientation, or purchase realization, particularly in contexts where digital tools function as decision aids rather than transactional platforms. In many high-stakes, offline-executed categories, digital engagement informs evaluation and confidence formation without constituting the locus of exchange.

Accordingly, while technology adoption theories remain an essential conceptual baseline, this study deliberately shifts focus from adoption intent toward examining how digital tools influence consumer decision trajectories over time, and how digitally enabled cognition interacts with offline, institutionally governed execution.

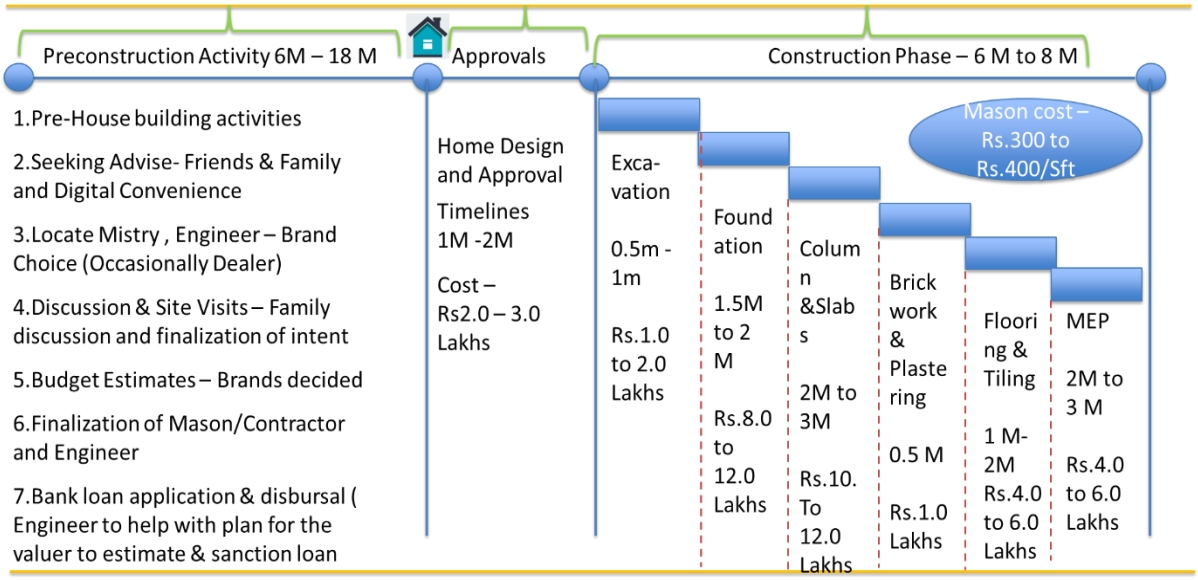
1.3 From Technology Adoption to Consumer Decision Journeys

Parallel to technology adoption research, marketing scholarship has increasingly emphasized consumer decision processes and journey dynamics. Early models portrayed decision-making as linear and sequential, but subsequent research shows that consumers frequently revisit alternatives, revise preferences, and defer commitment in response to uncertainty, risk, and evolving constraints (Payne, Bettman, & Johnson, 1993; Bettman, Luce, & Payne, 1998).

The expansion of digital information environments has intensified these dynamics. Consumers must not only acquire information but also interpret competing claims, justify choices to themselves and others, and sustain confidence over extended periods. Decision-making thus involves cognitive stabilization, not merely information search. This stabilization process becomes especially critical in high-risk and irreversible purchase environments where decisions cannot be easily reversed once executed.

These processes are particularly salient in individual homebuilding, where decision cycles extend over 18–30 months, involve multiple technical and financial milestones, and require repeated commitments to safety-critical and financially consequential material choices.

Staged Decision Architecture in Individual Homebuilding — Timeline, Roles, and Cost Commitments



In such contexts, journeys are not well captured by linear persuasion or simple funnel models. Instead, they unfold as non-linear, information-rich, and institutionally mediated processes, in which consumers construct confidence upstream while relying on expert validators and channel actors downstream.

1.4 Digital Technologies and the Consumer-Side Perspective

Much of the omnichannel and digital marketing literature adopts a firm-centric lens, focusing on how organizations integrate channels, orchestrate customer touchpoints, and optimize conversion (Verhoef et al., 2015; Grewal et al., 2021). While valuable, this perspective often presumes that consumer journeys unfold within firm-designed systems.

Emerging evidence suggests, however, that consumers increasingly assemble their own journeys, drawing on search engines, online communities, manufacturer websites, peer networks, and offline experts. In such contexts, digital influence operates primarily at the level of internal cognitive states—shaping perceived fit, preparedness, and confidence—rather than directly triggering transactions.

This consumer-assembled logic is especially pronounced in legacy, intermediary-driven industries, where physical inspection, technical validation, and channel relationships remain essential for purchase realization. Digital transformation in these settings does not eliminate

intermediaries; it reconfigures their roles, shifting them toward validation, gatekeeping, and execution coordination.

1.5 Research Gap and Objectives

Despite extensive research on technology adoption, digital marketing, and omnichannel strategies, a critical gap remains in explaining how digitally informed consumers translate early-stage exploration into commitment and purchase in high-physicality, high-risk categories where transactions remain offline.

Prior literature offers limited theoretical clarity on:

• How digital tools shape consumer cognition when they do not serve as transactional platforms
• How consumers stabilize brand preferences amid expanding and sometimes conflicting information
• How traditional intermediaries function as validators and execution authorities
• How contextual disruptions—including availability, financial constraints, and tactical offers—shape purchase realization

Addressing these gaps requires an integrated framework linking digital engagement, confidence formation, and execution-stage governance within a consumer-assembled journey.

This study proposes that **digital engagement primarily operates at the stage of confidence formation**, while the **execution of purchase decisions remains governed by institutional validators and feasibility constraints**, creating a systematic **formation–execution asymmetry** in high-physicality consumption settings.

Accordingly, this study pursues three primary objectives:

1. To conceptualize and empirically examine **Brand Propensity** as a digitally formed, pre-execution confidence state in the building materials category.
2. To analyze how MarTech-enabled digital engagement contributes to Brand Propensity and how this confidence is carried forward—or disrupted—at execution.
3. To identify the institutional and contextual mechanisms (validators, switching pressures, budget constraints) that govern whether digitally formed confidence results in **Branded Purchase Realization (BPR)**.

1.6 Central Argument in Brief

This dissertation advances the view that digitally mediated engagement in individual house building functions primarily as a mechanism of brand-confidence formation rather than as a transactional engine. It shows that purchase execution in high-physicality, safety-critical building-materials markets remains institutionally and financially governed by engineers, masons, dealers, and feasibility constraints, rather than by consumer cognition alone. The resulting formation–execution asymmetry means that strong, digitally formed Brand Propensity is necessary but not sufficient for branded purchase realization. Education and budget pressure condition how MarTech-enabled exploration translates into Brand Propensity and, ultimately, into realized branded purchase, revealing when digital influence is carried through and when it leaks at execution.

1.7 Industry Scale Derivation: Individual House Building as a Major Consumption Engine

To contextualize the economic significance of individual house building (IHB) within the building materials ecosystem, a simplified cost-layer approach can be used. A typical Ground +1 individual house of approximately 2,000 square feet involves an average construction cost of roughly ₹2,000 per square foot, resulting in a total project cost of approximately ₹40 lakh per house.

Within this cost structure, the **core and shell phase**—which includes structural materials such as steel (TMT bars), cement, sand, aggregates, and basic structural labor—accounts for approximately ₹1,250 per square foot, or roughly ₹25 lakh per house. These materials constitute the ***non-reversible and safety-critical portion of the construction process***, as decisions related to structural materials cannot be easily altered once construction progresses.

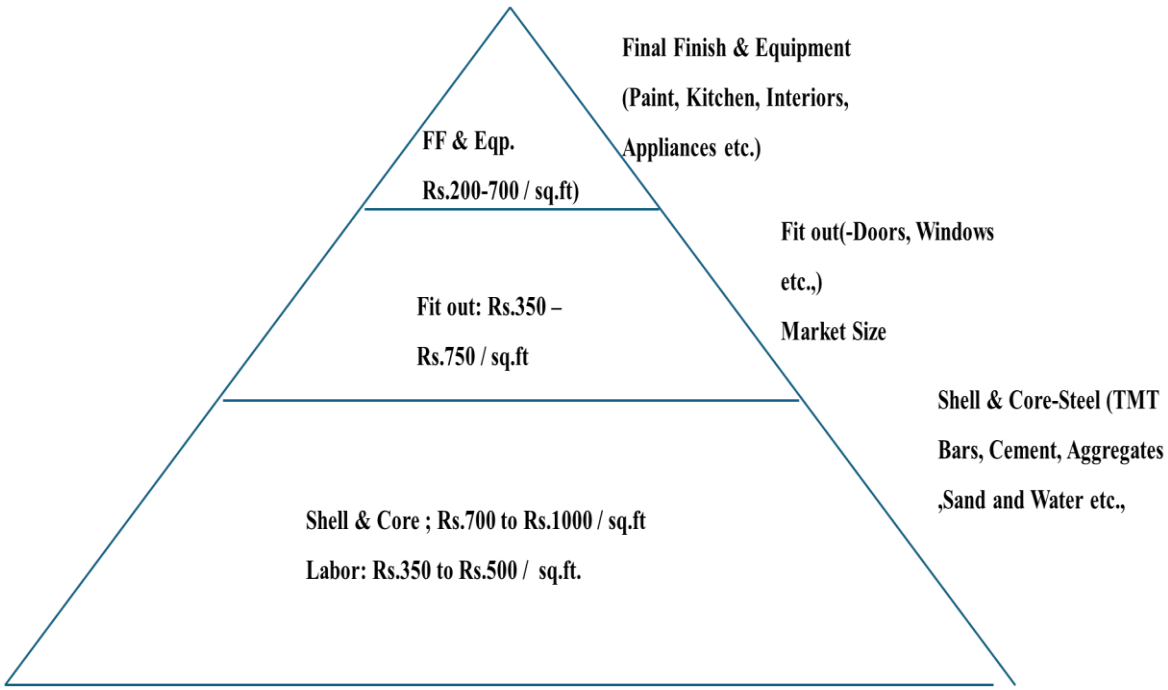
The remaining ₹750 per square foot (approximately ₹15 lakh per house) corresponds to **finish, fit-out, and equipment components**, including doors, windows, tiles, plumbing systems, electrical installations, paint, woodwork, and interior fittings. While these elements are economically significant, they generally occur downstream of the structural phase and involve comparatively higher flexibility for revision or customization.

Industry estimates suggest that India witnesses approximately **1.3–1.4 million individual house constructions annually**. Applying the above cost structure implies that the **core structural materials segment alone represents an annual economic opportunity of**

approximately USD 30 billion, while the ***overall individual house building ecosystem approaches approximately USD 50 billion annually***.

This derivation positions individual house building not as a peripheral construction activity but as a ***major household-driven demand engine in India's building materials economy***. Given the ***irreversibility, safety criticality, and financial concentration*** of structural material decisions, understanding how households form, validate, and execute brand choices in this segment becomes both economically consequential and theoretically necessary.

Figure 3: Economic Structure of Individual House Building — Cost Layers, Material Intensity, and Strategic Leverage Points



1.8 Overview of the Study

This study develops and empirically tests a consumer-journey framework in which digital engagement shapes brand-related cognition, leading to the formation of Brand Propensity, which subsequently shapes branded purchase outcomes under institutional and feasibility constraints.

Using a staged mixed-methods design—combining qualitative fieldwork (Stage ABC) and quantitative modeling (Stage D)—the research examines individual house builders in the building materials category. By situating digital influence upstream of transaction and execution—where it shapes confidence formation—within a context of institutional

governance and feasibility constraints downstream, the study highlights a systematic **formation–execution asymmetry** in consumer decision realization. The study contributes to scholarship on consumer journeys, digital transformation, trust formation, and legacy channel dynamics.

The staged analytical progression underlying this dissertation is illustrated in the Research Evolution Roadmap (see Appendix 9.4, Figure 9.4.1).

1.9 Structure of the Thesis

The remainder of this thesis is organized as follows:

• **Chapter 2** reviews literature on technology adoption, consumer journeys, digital marketing, and building materials, leading to the detailed conceptual model.
• **Chapter 3** develops the conceptual framework, defines core constructs, and sets out the hypotheses tested in later chapters.
• **Chapter 4** describes the research design, sampling strategy, and measurement development, explaining the staged mixed-methods approach.
• **Chapter 5** presents empirical grounding, construct development, and diagnostic validation from the qualitative and Stage ABC phases.
• **Chapter 6** reports quantitative results, including descriptive patterns, regression diagnostics, and structural model estimates of the formation–execution dynamics.
• **Chapter 7** interprets these findings, discussing theoretical and managerial implications of the formation–execution asymmetry identified in the study.
• **Chapter 8** synthesizes contributions, clarifies boundary conditions, and outlines directions for future research, including comparative extensions to other high-physicality categories and institutional contexts.
• **Chapter 9** presents survey instruments, and references.

Chapter 2: Literature Review

2.1 From Linear Persuasion Models to Non-Linear Consumer Decision Journeys

Early marketing scholarship conceptualized consumer decision-making as a linear, sequential process, progressing through clearly defined stages from awareness to purchase. The most enduring articulation of this logic is the AIDA framework—Attention, Interest, Desire, and Action—originally proposed by Lewis (1898) and later formalized by Strong (1925). Within this paradigm, persuasion is assumed to unfold in a predictable sequence, driven primarily by firm-initiated communications and cumulative exposure.

Linear decision models were well suited to market environments characterized by limited product variety, restricted media channels, and pronounced information asymmetries. Under such conditions, firms exercised substantial control over information flow, and consumers were largely dependent on marketer-provided cues. Decision-making was therefore framed as a response to message sequencing and intensity rather than as an active process of search and evaluation.

Subsequent work on integrated marketing communications synthesized how firms coordinate message content and timing across channels to reinforce brand meaning and persuasion, while still largely assuming a managerially orchestrated communications architecture (Batra & Keller, 2016). However, as markets evolved and product assortments expanded, empirical evidence increasingly challenged the universality of linear persuasion models. By the early 2000s, a growing body of research documented systematic deviations from orderly, stage-based progression. Consumers were observed to skip stages, revisit earlier considerations, suspend decisions, or oscillate between alternatives before reaching commitment. This stream of work highlighted that decision-making is often adaptive, recursive, and contingent on situational constraints rather than strictly sequential (Payne, Bettman, & Johnson, 1993; Bettman, Luce, & Payne, 1998).

Importantly, these departures from linearity were not random. They were particularly pronounced in categories involving higher perceived risk, greater irreversibility, and increased cognitive demands. In such contexts, consumers were found to engage in extended information search, repeated evaluation, and selective attention to cues that reduce uncertainty. Decision

journeys thus emerge as non-linear not merely because of complexity, but because consumers actively adjust their strategies in response to uncertainty and perceived consequences.

While this literature marked an important conceptual shift away from persuasion-centric models, it remained largely focused on micro-level choice dynamics. The emphasis was on how consumers process information under constraints, rather than on how broader ecosystems of touchpoints—digital, social, and physical—shape decision trajectories. As a result, although non-linearity was acknowledged, the mechanisms through which consumers ultimately stabilize preferences and move toward commitment were not fully theorized.

More recent research on customer journeys and digital marketing further highlights that contemporary decision environments extend beyond firm-controlled communication systems. Digital technologies enable consumers to independently access information, compare alternatives, and construct preliminary evaluations prior to engaging with sellers. As a result, decision processes increasingly unfold across heterogeneous digital and offline touchpoints that are not fully orchestrated by firms.

This shift has important implications for how decision journeys are conceptualized. Rather than following firm-designed sequences, consumers frequently assemble their own pathways across search platforms, peer networks, and physical intermediaries. Such consumer-assembled journeys challenge the implicit assumption in earlier persuasion frameworks that firms govern the sequencing and influence structure of the purchase process.

Finally, it is important to distinguish this stream from technology adoption research. Frameworks such as the Unified Theory of Acceptance and Use of Technology (UTAUT) explain why individuals accept and use technologies based on factors such as performance expectancy and effort expectancy (Venkatesh et al., 2003). However, these models are not designed to explain how technology reshapes consumer decision journeys or preference stabilization in contexts where digital tools function primarily as informational aids rather than as transactional systems.

Consequently, while technology adoption models help explain whether consumers engage with digital tools, they provide limited insight into how digitally mediated information contributes to the formation of preferences and the eventual realization of purchase decisions in categories where transactions remain embedded in offline or institutionally governed channels.

Taken together, these streams establish that contemporary decision-making is adaptive, context dependent, and increasingly shaped by digital information environments. However, the transition from digitally informed exploration to confident commitment remains insufficiently explained, particularly in high-stakes categories where execution is mediated by offline actors and institutional constraints.

2.2 The Consumer Journey as a Cognitive and Experiential Construct

A major advance in addressing the limitations of linear and micro-level decision models came with the formalization of the consumer journey as a holistic construct. Lemon and Verhoef (2016) synthesized prior research by conceptualizing the journey as the consumer's end-to-end experience across multiple stages and touchpoints, encompassing pre-purchase, purchase, and post-purchase phases. Crucially, they reframed the journey from the consumer's perspective rather than as a firm-designed or firm-controlled process.

This reconceptualization marked a significant shift in marketing scholarship. Instead of treating consumer decisions as outcomes of sequential persuasion attempts, the customer journey perspective recognizes that consumers actively integrate information and experiences across a wide array of interactions that extend beyond direct firm influence.

In this formulation, journeys unfold across four categories of touchpoints: firm-owned, partner-owned, customer-owned, and social or external. Many of these touchpoints lie outside the direct control of firms, underscoring that consumer journeys are assembled rather than orchestrated. This insight represents a fundamental departure from earlier funnel-based models, which implicitly assumed managerial control over sequencing, exposure, and influence.

Lemon and Verhoef (2016) further emphasized that journeys are experiential and memory-based. Consumers do not respond to isolated interactions; instead, they integrate experiences over time, selectively recalling and interpreting touchpoints in ways that influence subsequent judgments and behavior. As a result, the journey is not simply a chronological record of interactions, but a cognitive narrative constructed by the consumer.

This perspective places internal evaluative states at the center of the decision process. Rather than responding mechanically to stimuli, consumers accumulate impressions and interpretive cues that gradually shape emerging preferences and expectations.

This perspective has two important implications. First, early-stage interactions—particularly those occurring outside firm control—can exert disproportionate influence on downstream

outcomes by shaping expectations, reference points, and interpretive frames. Second, decision-making cannot be understood solely through observed actions; internal states such as confidence, justification, and perceived fit play a critical role in moving consumers toward commitment.

In other words, the journey perspective highlights that preference formation is not merely the outcome of exposure to information, but the result of how consumers cognitively organize and interpret that information over time.

Subsequent research in customer experience and retailing reinforces this view. Studies show that consumers engage with multiple channels and information sources not merely to gather factual information, but to reduce ambiguity and validate emerging preferences (Grewal, Levy, & Kumar, 2009; Grewal, Roggeveen, & Nordfält, 2017). Digital touchpoints, in particular, enable consumers to explore, compare, and eliminate alternatives prior to meaningful interaction with sellers.

Digital environments significantly expand the scope of early-stage exploration. Search engines, review platforms, and social media expose consumers to large volumes of product information and peer-generated content, allowing them to narrow alternatives and construct preliminary evaluations before interacting with traditional retail or service channels.

At the same time, the consumer journey literature cautions against assuming that increased information necessarily leads to faster or more decisive action. In contexts characterized by extensive choice, high perceived risk, and limited reversibility, greater exposure can amplify cognitive load and prolong decision-making (Sweller,1988). Thus, while contemporary journeys are increasingly information-rich, they are also cognitively demanding, reinforcing the importance of mechanisms that help consumers achieve resolution.

Consequently, the key challenge in many decision environments is not simply access to information, but the ability of consumers to translate extensive exploration into stable preferences and confident commitment.

Taken together, the consumer journey literature establishes that modern decision-making is non-linear, multi-touchpoint, and cognitively mediated. However, while it provides a powerful descriptive framework, it stops short of specifying how consumers transition from exploration to commitment—particularly in categories where digital tools inform choice but do not eliminate uncertainty.

In particular, the literature provides limited insight into how digitally informed exploration culminates in confidence-based preference stabilization when transactions remain embedded in offline or institutionally governed channels.

Addressing this gap requires closer attention to how consumers use digital and social resources to structure cognition and stabilize preferences, a task taken up in the subsequent sections of this chapter.

2.2.1 Budget Anchoring and Constraint-Driven Consumer Journeys

In high-stakes and high-irreversibility purchase contexts, consumer journeys frequently begin not with brand awareness or channel exploration, but with budget determination. A substantial body of research in consumer decision-making demonstrates that budgets act as cognitive constraints that define feasible choice sets before detailed evaluation occurs. Rather than emerging late in the process, budget considerations often precede search and shape both the depth and direction of subsequent exploration.

This observation is particularly relevant in categories involving substantial financial commitment, where consumers must first determine the feasible expenditure range before engaging in detailed product or brand comparisons.

Research on mental accounting shows that consumers allocate expenditures into mental budgets, which govern how alternatives are evaluated and compared (Thaler, 1985; Heath & Soll, 1996). Once a budget is established, consumers tend to search within its bounds, treating options outside the budget as non-compensatory regardless of their attributes. This constraint-driven logic is particularly salient in high-involvement decisions, where perceived risk, irreversibility, and financial commitment are substantial.

Adaptive decision-making models further suggest that consumers adjust their search strategies based on task complexity and constraints such as budget limits (Payne, Bettman, & Johnson, 1993; Bettman, Luce, & Payne, 1998). In such settings, budget anchoring reduces cognitive load by narrowing the consideration set, enabling consumers to focus on trade-offs among feasible alternatives rather than on exhaustive evaluation. As a result, brand search, channel search, and influencer consultation are all conditioned by an initial affordability frame.

In this sense, budget determination functions as a structural boundary condition that organizes the subsequent consumer journey. Consumers do not evaluate the entire market; rather, they explore alternatives that fit within the financial frame they have established at the outset.

Within the customer journey perspective, budget anchoring functions as a pre-purchase filter that shapes exposure to touchpoints and interpretations of information. Consumers do not encounter all marketing stimuli uniformly; rather, they selectively engage with information that aligns with their financial constraints and anticipated expenditure levels (Lemon & Verhoef, 2016). This logic extends into the purchase and post-purchase phases, where satisfaction and justification are evaluated relative to budget adherence rather than to absolute performance.

Thus, budget considerations not only delimit the scope of exploration but also influence how consumers interpret subsequent information and assess the acceptability of alternatives.

Accordingly, in high-stakes consumption contexts, budget determination constitutes an integral starting point of the consumer journey, structuring subsequent exploration, validation, and realization processes.

Recognizing the role of budget anchoring is therefore essential for understanding how consumer journeys unfold in high-commitment purchase environments, where financial feasibility shapes the sequence of information search, evaluation, and eventual purchase realization.

2.3 Customer-Aware Retailing and the Expansion of the Journey Perspective

Following the formalization of the consumer journey as a multi-touchpoint construct, retailing scholarship increasingly shifted toward understanding how consumers experience and interpret retail environments over time. This shift marked a movement away from transaction-centric views toward experience-centric perspectives, in which value creation depends on how consumers perceive and integrate interactions across channels and contexts.

This transition reflects a broader recognition that consumer behavior cannot be understood solely through discrete purchase events but must instead be examined through the cumulative experiences that shape perceptions, expectations, and preferences throughout the decision journey.

Grewal, Levy, and Kumar (2009) were among the earliest to articulate this shift, arguing that retail strategy must be evaluated through the lens of consumer perception rather than through isolated managerial actions. Their work emphasized that consumers experience the retail mix holistically, integrating product, price, promotion, and place into an overall assessment of value. Importantly, this perspective acknowledged that consumer responses are shaped not only by firm actions but also by contextual and situational factors.

This consumer-centric framing reinforces the idea that decision processes unfold through the interaction of multiple stimuli and experiences rather than through linear persuasion attempts.

Subsequent research extended this logic by examining how experiential elements influence consumer engagement and decision-making. Grewal, Roggeveen, and Nordfält (2017) highlighted the role of store environments, sensory cues, and mobile interfaces in shaping consumer responses, demonstrating that retail experiences are dynamic and context dependent. Roggeveen and Sethuraman (2020a) further showed that situational variables—such as time pressure and task orientation—condition how consumers engage with retail touchpoints across channels.

Together, these contributions highlight that consumer journeys are embedded within broader experiential systems that combine physical environments, digital interfaces, and interpersonal interactions.

A significant consolidation of this stream is reflected in Grewal et al. (2021), published in the Journal of Retailing, which, in the context of conscious capitalism, introduces an expanded 6Ps framework—Product, Price, Place, Promotion, People, and Process. This framework explicitly recognizes that consumers experience retail offerings as integrated systems rather than as discrete managerial levers. By incorporating people and process, it underscores the experiential and interpretive nature of consumer journeys. Although developed within the retailing and conscious capitalism context, this 6Ps perspective is conceptually consistent with the consumer-centric journey orientation advanced by Lemon and Verhoef (2016).

Importantly, the inclusion of people and process highlights that actors and institutional arrangements within the marketplace can shape how consumers interpret and act upon information encountered during their journeys.

Collectively, this body of work represents a clear advance in retailing research. It moves beyond linear persuasion models and acknowledges that consumer journeys are shaped by experiences across multiple touchpoints. However, despite this progress, much of this literature continues to examine journeys within environments that are implicitly designed and managed by firms. The consumer is recognized as active, yet the firm remains the primary architect of the experience ecosystem.

Consequently, while customer-aware retailing research emphasizes consumer perceptions and experiences, it still largely assumes that the structure of the journey itself is shaped by firm-controlled environments.

This assumption becomes less tenable in contexts where consumers independently assemble information from digital platforms, peer networks, and offline intermediaries before interacting meaningfully with firms.

Understanding such consumer-assembled journeys therefore requires examining not only how firms design retail environments, but also how consumers navigate heterogeneous information sources and institutional actors that exist beyond direct managerial control.

2.4 Firms, Technology, and the Shaping of Consumer Journeys

Parallel to the evolution of customer-aware retailing, another stream of research has examined how firms deploy digital technologies to shape and manage consumer journeys. This literature focuses on how organizations integrate digital and physical channels, leverage data, and coordinate touchpoints to enhance consumer experience and firm performance.

This stream reflects the managerial perspective on digital transformation, emphasizing how firms design and orchestrate interactions across multiple customer touchpoints.

Verhoef, Kannan, and Inman (2015) articulated omnichannel management as a strategic imperative, arguing that consumers increasingly interact with firms across multiple channels and expect seamless integration. Kannan and Li (2017) further conceptualized digital marketing as an ecosystem in which firms use technology to orchestrate interactions, personalize communications, and optimize engagement across touchpoints. Complementing these perspectives, Hoffman and Novak (2019) emphasize how successive waves of new technologies disrupt traditional marketing logics and necessitate rethinking how firms design and manage customer experiences across evolving digital interfaces.

Collectively, this literature positions digital technologies as tools through which firms seek to integrate channels, personalize communication, and enhance consumer engagement.

Operational models such as Buy Online, Pick Up in Store (BOPS) exemplify this firm-centric approach. Research on omnichannel operations demonstrates that such models can improve convenience while preserving the benefits of physical inspection and service (Gao & Su, 2017).

Similarly, studies on cross-channel integration show that tighter coordination across channels can enhance sales growth and customer retention (Cao & Li, 2015).

This literature provides important insights into how firms respond to changing consumer behavior by redesigning channel structures and deploying technology strategically. Work on transforming customer experience through new technologies further underscores that firms view digital tools as levers to reconfigure touchpoints, automate interactions, and augment consumer decision processes, often with an explicit focus on personalization and engagement metrics (Hoyer et al., 2020).

Despite these advances, the analytical emphasis across these contributions remains centered on firm action and managerial control.

Consumer journeys are typically examined as pathways that firms seek to design, manage, and optimize, rather than as trajectories that consumers independently assemble.

As a result, this literature implicitly assumes that the architecture of the consumer journey remains largely governed by firms through integrated channel systems and orchestrated touchpoints.

However, in many contemporary consumption contexts—particularly those involving high-involvement and technically complex products—consumers engage extensively with digital information environments before interacting meaningfully with sellers.

In such settings, digital technologies may influence how consumers construct preferences and evaluate alternatives, yet the final transaction may still occur within legacy distribution channels that operate under different institutional logics.

As a result, while omnichannel and MarTech research acknowledges that consumers engage with multiple touchpoints, it often assumes that these engagements occur within firm-orchestrated systems. This assumption is less appropriate in contexts where consumers use digital tools extensively before meaningful interaction with sellers and where transactions remain embedded in legacy channels.

Understanding such contexts therefore requires shifting the analytical lens from firm-managed journeys toward consumer-assembled decision processes that unfold across digital exploration and institutionally governed execution environments.

2.5 Search Costs, Consideration Sets, and Non-Linear Brand Evaluation

An important but less integrated stream of research examines how consumers search for information and form consideration sets under varying cost structures. Early work on adaptive decision-making demonstrates that consumers balance effort and accuracy when evaluating alternatives, adjusting their search strategies based on task complexity and perceived risk (Payne, Bettman, & Johnson, 1993; Bettman, Luce, & Payne, 1998).

This literature highlights that consumer preferences are often constructed during the evaluation process rather than retrieved from stable internal preferences.

Research in durable goods contexts highlights a critical asymmetry in search behavior. When consumers consider only one or two dominant brands, search costs are relatively low and decisions can be made quickly. In contrast, when the number of viable alternatives is large—particularly among parity or value brands—search costs increase substantially, leading to extended exploration, backtracking, and reliance on heuristics. Work by Sridhar and Moorthy (2011) in categories such as automobiles illustrates how market communication and the structure of available alternatives can intensify consumer search and prolong decision processes.

These findings reinforce the view that decision journeys often involve iterative exploration rather than linear progression toward purchase.

Digital technologies amplify these dynamics. On the one hand, digital tools reduce the marginal cost of accessing information, enabling consumers to explore a wider set of alternatives (Avery et al., 2012). On the other hand, increased information availability can raise cognitive load and complicate evaluation, particularly in categories characterized by technical complexity and opaque quality differences.

Consequently, digital search environments simultaneously expand exploration while increasing the cognitive demands associated with evaluating competing alternatives.

As a result, digital search often produces extensive exploration without necessarily yielding closure. Consumers may narrow options and eliminate inferior alternatives, yet still hesitate to commit. This pattern is especially salient in high-physicality and high-irreversibility categories, where mistakes are costly and difficult to reverse.

In such contexts, the challenge for consumers is not simply gathering information but achieving sufficient confidence to commit to a particular alternative.

These insights suggest that search behavior and consideration-set dynamics play a central role in shaping non-linear journeys. However, existing research stops short of explaining how consumers move from extended evaluation to commitment when digital tools inform choice but do not resolve uncertainty.

In particular, the literature provides limited explanation of how digitally mediated exploration translates into stable preferences that are strong enough to guide downstream purchase decisions.

2.6 Implications for Understanding Consumer-Assembled Journeys

Taken together, the literatures on customer-aware retailing, omnichannel strategy, and consumer search behavior reveal a common limitation. While they acknowledge non-linearity, expanded choice, and experiential complexity, they largely focus on either firm responses or isolated aspects of consumer behavior.

Each stream contributes important insights into specific components of the decision process—such as channel integration, information search, or experiential touchpoints—but they remain only partially integrated.

What remains under-theorized is how consumers themselves assemble journeys across digital and offline touchpoints to stabilize preferences and move toward purchase in contexts where firms do not fully control the decision environment.

In many contemporary markets, consumers independently navigate digital information environments, peer-generated content, and physical intermediaries before interacting meaningfully with sellers.

In particular, existing research does not adequately explain how digital information use translates into confidence and commitment when transactions remain embedded in legacy channels.

This issue becomes especially salient in product categories characterized by high physicality, technical complexity, and irreversible outcomes.

Addressing this gap requires shifting the analytical lens from firm-designed journeys to consumer-assembled ones, and from channel integration to the cognitive and evaluative processes that underpin decision resolution.

Such a shift emphasizes how consumers combine heterogeneous information sources—including digital platforms, interpersonal advice, and physical inspection—to construct preferences and evaluate alternatives.

The next section builds on this insight by examining how consumers use digital and social resources to validate emerging preferences and realize purchases.

In particular, it explores the role of social influence and expert actors in stabilizing decisions when consumers seek reassurance before committing to high-stakes purchases.

2.7 Social Influence, Expert Validation, and the Resolution of Consumer Uncertainty

A substantial body of research highlights the role of social influence and interpersonal communication in shaping consumer decisions. Early and influential work on word-of-mouth demonstrates that information transmitted through social networks can significantly affect consumer awareness, attitudes, and sales outcomes (Trusov, Bucklin, & Pauwels, 2009). Unlike firm-initiated communications, interpersonal influence is often perceived as more credible and diagnostic, particularly in situations involving uncertainty.

This literature establishes that consumers frequently rely on social information to interpret complex choices and reduce uncertainty during the decision process.

Subsequent research has refined this view by emphasizing that influence is not uniform across decision stages. Rather than acting as a general persuasive force, social and expert inputs often function conditionally becoming salient at specific points in the journey when consumers seek reassurance, confirmation, or legitimacy for emerging preferences. This distinction is particularly important in categories characterized by high perceived risk and limited reversibility.

Thus, interpersonal influence often operates not as a primary driver of awareness but as a mechanism for validating decisions that have already begun to take shape through prior exploration.

In such contexts, expert actors—such as engineers, masons, dealers, or other category-specific intermediaries—play a unique role. Their influence is grounded not merely in familiarity or

social proximity, but in perceived competence and contextual relevance. Consumers often rely on these actors to validate technical claims, assess suitability, and confirm that shortlisted options are “safe” or appropriate.

These actors function as institutional validators whose authority stems from accumulated knowledge, practical experience, and professional credibility within the marketplace.

Critically, this form of influence differs from classical persuasion. Rather than shaping initial awareness or expanding consideration sets, expert validation typically operates downstream, confirming or occasionally destabilizing preferences that have already been formed through prior exploration.

In other words, while digital and informational sources often shape early preference formation, expert actors frequently intervene closer to the point of purchase to legitimize or challenge those emerging preferences.

This distinction between influence as persuasion and influence as validation is often blurred in the literature but is central to understanding how consumers resolve uncertainty in complex purchase environments.

Recognizing this distinction helps explain why digitally informed consumers may still defer to trusted intermediaries when making final purchase decisions in technically complex or high-risk product categories.

2.8 Showrooming, Webrooming, and Cross-Channel Validation

Related research on showrooming and webrooming further underscores the complementary roles of digital and physical channels in contemporary consumer journeys. Showrooming refers to consumers inspecting products in physical stores before purchasing online, whereas webrooming involves researching products online prior to purchasing offline. Studies in this domain highlight the presence of information externalities across channels, where insights gained in one channel shape behavior in another (Jing, 2021).

These behaviors illustrate how consumers strategically combine the strengths of different channels during the decision process.

Importantly, these behaviors are not merely channel-switching tactics driven by price sensitivity. Instead, they reflect consumer attempts to combine the strengths of different

channels—leveraging digital tools for information richness and physical environments for sensory inspection, reassurance, and interpersonal interaction.

Digital environments provide extensive information and comparison capabilities, while physical environments offer opportunities for tactile inspection, experiential evaluation, and interaction with knowledgeable intermediaries.

In high-physicality categories, webrooming is particularly prevalent. Consumers use digital platforms to narrow options, understand specifications, and compare brands, but rely on physical or interpersonal interactions to validate final decisions.

This pattern reinforces the view that digital touchpoints often structure early-stage exploration and evaluation, whereas offline touchpoints facilitate reassurance and decision closure.

Despite extensive documentation of showrooming and webrooming behaviors, much of this literature remains descriptive. It identifies patterns of channel usage without fully explicating the internal states—such as confidence or justification—that govern transitions from exploration to purchase.

In particular, existing studies rarely examine how cross-channel interactions contribute to the formation of confidence in a preferred option prior to commitment.

As a result, while cross-channel behaviors are well documented, the mechanisms through which they contribute to decision resolution remain under-specified.

Understanding these mechanisms is especially important in contexts where digital channels inform evaluation but the final purchase occurs within traditional distribution systems or institutional settings.

2.9 Cognitive Load, Resistance, and Heterogeneity in Digital Engagement

As digital information environments expand, consumers face increasing cognitive demands. Research on cognitive load demonstrates that excessive information can overwhelm processing capacity, leading consumers to simplify decisions, rely on heuristics, or disengage altogether (Sweller, 1988). These effects are particularly pronounced in categories involving technical complexity or unfamiliar attributes, where the marginal value of additional information is difficult to assess.

Consequently, digital environments do not uniformly improve decision quality; instead, their effects depend on how consumers process and interpret available information.

Complementary research on consumer resistance to technology suggests that digital engagement is neither uniform nor automatic. Mani and Chouk (2018) show that perceived intrusiveness, complexity, or misalignment with personal goals can trigger resistance, resulting in selective avoidance or superficial engagement.

These findings highlight that consumers differ substantially in how they engage with digital information sources.

Extending this argument, Karhade and Kathuria (2020) challenge the implicit assumption that widely used digital heuristics—such as platform-based ratings—operate uniformly across contexts. They argue that much of the existing evidence on digital signals is derived from WEIRD settings (Western, Educated, Industrialized, Rich, and Democratic) and may not readily generalize to what they term GREAT domains (Growing, Rural, Eastern, Aspirational, and Transitional).

In GREAT contexts, digital artifacts may exist and be widely accessible, yet their behavioral relevance depends on institutional structures, participation patterns, and contextual constraints.

Importantly, their argument is not that digital signals universally fail in emerging markets, but that their influence is conditional. The decision relevance of digital information depends on the surrounding institutional environment and the roles played by intermediaries within the marketplace.

This insight is particularly relevant for understanding digitally informed decision processes in transitional economies where formal and informal institutional actors coexist.

Consistent with this perspective, technology adoption research highlights substantial heterogeneity in digital engagement driven by factors such as age, experience, and habit (Venkatesh et al., 2003; Venkatesh, Thong, & Xu, 2012). These insights suggest that digital influence is contingent rather than universal.

Some consumers engage deeply and diagnostically with digital information, while others skim, disengage, or defer decisions. Such heterogeneity has important implications for understanding why digital tools sometimes fail to translate exploration into commitment, particularly in high-physicality and high-risk categories where offline validation remains central.

Thus, digital engagement should be understood as a spectrum rather than a binary condition.

Consumers differ in the extent to which they rely on digital information for preference formation, and these differences influence how strongly digital exploration translates into downstream purchase decisions.

Recognizing this variation is essential for explaining differential outcomes across consumers exposed to similar digital environments.

2.10 Budget Constraints, Cross-Channel Resolution, and Late-Stage Disturbances

In high-stakes purchase contexts, consumer journeys are structured by both early-stage constraints and late-stage resolution mechanisms. As discussed earlier, budget determination functions as a pre-purchase anchor that defines feasible choice sets and conditions subsequent exploration. Once this constraint is established, consumers engage in information search, evaluation, and comparison within a bounded domain of alternatives.

This early-stage constraint shapes the structure of the journey but does not fully determine the eventual purchase outcome.

As journeys progress toward realization, cross-channel behaviors such as showrooming and webrooming become prominent. Consumers frequently leverage digital channels for price transparency and attribute comparison, while relying on physical or interpersonal interactions to reduce residual uncertainty. These behaviors are often driven by pricing and information asymmetries across channels, which consumers attempt to arbitrage through selective channel use.

Thus, late-stage interactions frequently involve validation rather than renewed exploration.

Research on showrooming and cross-channel interaction demonstrates that such arbitrage does not necessarily undermine decision quality or firm outcomes. Kuksov, Liao, and Xiao (2018) show that physical interaction can enhance product credibility and facilitate realization, even when evaluation occurs elsewhere. Their findings suggest that late-stage interactions function less as persuasive interventions and more as resolution mechanisms that stabilize decisions already formed through prior exploration.

These findings reinforce the distinction between the processes that shape preference formation and those that enable the final execution of a purchase decision.

Within this resolution phase, consumers often rely on credible intermediaries or expert actors to validate technical fit, suitability, or appropriateness—particularly in categories characterized

by high irreversibility and performance risk. These actors do not typically expand consideration sets or initiate search; rather, they provide reassurance and legitimacy at the point where consumers seek confirmation before commitment.

In such situations, institutional actors can either reinforce or redirect consumer preferences that have already been formed through prior digital exploration.

Financial and promotional mechanisms also operate at this late stage, interacting with confidence already established earlier in the journey. When introduced close to the point of transaction, such cues can accelerate realization, delay commitment, or induce switching among closely matched alternatives. Importantly, their influence is contingent on alignment with the consumer's existing evaluative state and the credibility of the channel through which they are delivered.

Consequently, late-stage disturbances may alter execution outcomes without fundamentally reshaping the underlying preferences formed earlier in the decision process.

Viewed alongside the earlier discussion of budget anchoring and search costs, these late-stage mechanisms highlight a contrast between processes that structure early exploration and those that trigger realization or redirection once a confidence-based resolution state has emerged.

This contrast underscores the importance of distinguishing analytically between the formation of preferences and the execution of purchase decisions.

Taken together, this literature suggests that late-stage decision dynamics are governed by resolution-oriented mechanisms rather than renewed evaluation. Budget anchors constrain early exploration, cross-channel behaviors facilitate validation, and contextual disturbances condition realization.

Recognizing this distinction is essential for understanding why digitally informed preferences do not always translate directly into realized purchases.

This structure underscores the importance of distinguishing between processes that shape preference formation and those that enable commitment.

2.11 Synthesis: Toward a Consumer-Assembled Resolution Mechanism

Across the literatures reviewed in this chapter, several consistent patterns emerge. First, consumer decision journeys are non-linear, information-rich, and cognitively demanding. Second, digital technologies play a central role in shaping exploration and evaluation but do

not eliminate uncertainty, particularly in high-physicality and high-risk categories. Third, social and expert actors function primarily as validators, facilitating confidence and legitimacy rather than initiating persuasion. Finally, late-stage disturbances such as financial offers can override or redirect outcomes without reshaping underlying preferences.

Taken together, these findings indicate that contemporary consumer journeys are shaped by multiple interacting mechanisms that operate at different stages of the decision process.

Despite these insights, existing research has not fully integrated these elements into a coherent explanation of how consumers move from exploration to commitment in contexts where firms do not fully control the journey.

Most frameworks either emphasize firm-designed omnichannel systems or isolate individual mechanisms such as word-of-mouth, search behavior, or technology adoption. As a result, the processes through which consumers assemble heterogeneous touchpoints into a confidence-based resolution state remain under-specified.

In particular, the literature provides limited insight into how digitally mediated exploration culminates in stable preferences that guide eventual purchase realization when transactions occur within legacy distribution channels.

The present study addresses this gap by advancing a consumer-assembled perspective in which digital tools structure cognition and enable the formation of a confidence-based resolution state that precedes transaction.

In this perspective, digital engagement plays a central role in shaping how consumers explore alternatives, evaluate brand signals, and construct internally consistent preferences.

This state is subsequently tested, stabilized, or redirected through validation and contextual mechanisms—such as expert input, cross-channel interaction, and late-stage financial cues—that operate close to the point of realization.

Thus, the journey from exploration to purchase involves two analytically distinct phases: the formation of confidence in a preferred option and the execution of the transaction within institutional and contextual constraints.

Recognizing this distinction helps explain why digitally informed preferences do not always translate directly into realized purchases.

In high-stakes consumption contexts such as individual house construction, digital engagement may strongly influence upstream preference formation, while the final purchase decision remains embedded within offline networks of validators, intermediaries, and financial considerations.

The next chapter formalizes this logic into a conceptual framework and develops testable propositions that link exploration, resolution, and realization in high-stakes, digitally mediated purchase contexts.

The literature reviewed in this chapter spans multiple streams, including linear persuasion models, adaptive decision making, customer journeys, omnichannel management, technology adoption, search behavior, brand credibility, social influence, and GREAT-context theorizing. Tables 2.10 and 2.11 consolidate these streams by summarizing what each literature establishes, what remains underexplained, and how the present study complements or extends prior work.

Table 2.10 Consolidated Positioning of the Dissertation within the Literature				
Literature Stream	**Key Studies**	**What the Literature Establishes**	**What Remains Underexplained**	**How the Present Study Complements or Extends**
Linear persuasion and stage-based decision models	Lewis (1898); Strong (1925); Batra & Keller (2016)	Early marketing models conceptualize consumer decision-making as a sequential process moving from awareness to action, largely driven by firm-initiated communication and managed message sequencing.	These models assume relatively orderly progression and strong firm control over information flow. They do not adequately explain recursive, search-intensive, high-risk decision journeys in which consumers independently assemble information across multiple touchpoints.	*The present study extends this stream by showing that in high-stakes building-material purchase contexts, consumers do not simply move through firm-designed persuasion stages. Instead, they construct non-linear journeys across digital and offline touchpoints, with preference formation occurring upstream and purchase realization governed downstream by institutional and contextual mechanisms.*
Adaptive decision making and constructive choice	Payne, Bettman, & Johnson (1993); Bettman, Luce, & Payne (1998); Simonson (2008); Simonson & Tversky (1992)	Consumers adapt their decision strategies to task complexity, cognitive constraints, and the structure of available alternatives. Preferences are often constructed during evaluation rather than retrieved as fixed internal states.	While this literature explains non-linearity, contingent evaluation, and context-dependent preference construction, it remains largely focused on micro-level choice processes. It does not fully explain how digitally assisted preference formation translates into actual purchase realization in institutionally mediated settings.	*The present study complements this literature by extending constructive choice logic into a real-world, high-physicality purchase environment. It argues that digital engagement helps consumers construct confidence in preferred brands upstream, but that downstream execution is mediated by validators, channels, and budget-related disturbances, creating a formation–execution asymmetry.*
Consumer journey and customer experience	Lemon & Verhoef (2016); Grewal, Levy, & Kumar (2009); Grewal, Roggeveen, & Nordfält (2017); Roggeveen & Sethuraman (2020a)	Consumer journeys are multi-touchpoint, dynamic, experiential, and partly outside firm control. Consumers integrate brand-owned, partner-owned, customer-owned, and social/external touchpoints into an end-to-end experience.	This literature provides a strong descriptive account of journeys but stops short of specifying how consumers stabilize preferences and move from exploration to commitment, especially when digital tools inform choice but do not host the transaction itself.	*The present study extends the journey literature by theorizing a consumer-assembled resolution mechanism. It highlights how digital touchpoints shape cognition and confidence formation upstream, while offline validation and contextual constraints determine whether that confidence is realized in purchase.*
Customer-aware retailing and experience-centric retail strategy	Grewal, Levy, & Kumar (2009); Grewal et al. (2021)	Retail environments are increasingly understood through the lens of consumer experience rather than isolated managerial actions. Product, price, place, promotion, people, and process are experienced holistically by consumers.	Although this literature recognizes consumer perception and context, it still largely assumes that journeys unfold within firm-shaped retail ecosystems. It offers limited explanation for journeys assembled across heterogeneous touchpoints beyond direct managerial design.	*The present study complements this stream by shifting attention from firm-shaped retail experiences to consumer-assembled journeys in which digital exploration, social influence, and validator intervention jointly shape outcomes in a legacy channel environment.*
Omnichannel management and firm-centric digital marketing	Verhoef, Kannan, & Inman (2015); Kannan & Li (2017); Hoffman & Novak (2019); Hoyer et al. (2020); Gao & Su (2017); Cao & Li (2015)	Firms use digital technologies to orchestrate channels, personalize interactions, integrate touchpoints, and enhance consumer experience and firm performance. Omnichannel models emphasize seamless channel coordination.	This literature is primarily firm-centric. It tends to assume that the journey remains largely orchestrated by the firm and that digital–physical integration improves customer experience and conversion. It is less suited to settings where consumers use digital tools independently but complete transactions in legacy, validator-governed channels.	*The present study extends this stream by identifying a boundary condition for firm-centric omnichannel logic. In IHB building-material markets, MarTech may shape upstream cognition and brand propensity, but the final transaction remains embedded in offline institutional structures that firms do not fully govern.*
Technology adoption and digital use	Venkatesh et al. (2003); Venkatesh, Thong, & Xu (2012)	UTAUT and UTAUT2 explain why individuals adopt and use technology, based on performance expectancy, effort expectancy, social influence, facilitating conditions, and related moderators such as age, experience, and habit.	These models explain technology use, but not how digital use reshapes consumer decision journeys, builds confidence in alternatives, or translates into realized purchase outcomes in categories where digital tools are primarily informational rather than transactional.	*The present study complements technology adoption research by moving from the question of whether consumers use MarTech to the question of what MarTech use does. Specifically, it shows how digital engagement contributes to upstream brand confidence formation while leaving downstream execution contingent on offline governance and contextual conditions.*

Table 2.11 Consolidated Positioning of the Dissertation within the Literature				
Literature Stream	**Key Studies**	**What the Literature Establishes**	**What Remains Underexplained**	**How the Present Study Complements or Extends**
Search costs, consideration sets, and digital information search	Ratchford (2001); Ratchford, Lee, & Talukdar (2003); Sridhar & Moorthy (2011); Avery et al. (2012)	Digital tools reduce search costs, expand access to alternatives, and improve the efficiency of information search. Search behavior becomes more extensive when more alternatives are viable or when quality is difficult to assess.	Existing work explains search efficiency and consideration-set formation but offers limited explanation of how extensive search leads to closure in technically complex, high-risk settings. It is also less attentive to downstream institutional barriers between preference and purchase.	*The present study extends this stream by arguing that digital search can strengthen upstream brand propensity without guaranteeing downstream realization. In building-material markets, the path from search to purchase is interrupted by validator authority, channel incentives, and financial feasibility.*
Brand credibility, knowledge calibration, and confidence under uncertainty	Alba & Hutchinson (2000); Erdem, Swait, & Valenzuela (2006)	Consumers rely on brand signals and subjective knowledge to reduce uncertainty. Brand credibility and knowledge calibration affect how consumers interpret information and develop confidence in alternatives.	Although this literature explains confidence and uncertainty reduction, it does not fully connect these mechanisms to the broader journey process or to institutional conditions that may block the realization of confidence-based preferences.	*The present study complements this stream by locating confidence formation within a broader consumer journey. It argues that digital engagement helps consumers build confidence in a preferred brand, but that this confidence remains vulnerable to downstream validation pressures and contextual disturbances before purchase realization.*
Budget anchoring, mental accounting, and affordability constraints	Thaler (1985); Heath & Soll (1996)	Consumers establish mental budgets that shape feasible choice sets, guide evaluation, and influence subsequent purchase justification. Budgeting is often an early-stage constraint rather than a late-stage adjustment.	This literature explains how budgets frame evaluation but does not integrate budget anchoring with digital exploration, cross-channel validation, and late-stage disturbances in complex purchase journeys.	*The present study extends this stream by positioning budget anchoring as an early structural condition of the consumer journey in high-stakes building-material purchases. It further shows that budget pressure also conditions whether digitally formed preferences are ultimately realized in purchase.*
Showrooming, webrooming, and cross-channel behavior	Jing (2021); Kuksov, Liao, & Xiao (2018)	Consumers combine online and offline channels strategically, using one channel for information and another for inspection, reassurance, or purchase. Cross-channel interactions create information spillovers and validation opportunities.	This literature documents cross-channel patterns well but remains largely descriptive. It does not fully theorize the internal state transitions, especially confidence and justification, that connect cross-channel exploration to final commitment.	*The present study extends this literature by showing that cross-channel behavior is not merely about channel switching, but about resolution. Digital channels structure early exploration and preference formation, while offline touchpoints facilitate validation and execution.*
Cognitive load, resistance to technology, and heterogeneity in digital engagement	Sweller (1988); Mani & Chouk (2018); Venkatesh et al. (2003); Venkatesh et al. (2012)	Consumers vary in how they process digital information. Cognitive overload, resistance, age, experience, and habit shape the depth and effectiveness of digital engagement.	Existing work explains heterogeneity in engagement but has not sufficiently integrated these differences into models of preference formation and purchase realization in high-risk, mixed-channel environments.	*The present study complements this stream by treating digital engagement as a spectrum rather than a binary condition. It further theorizes that demographic and usage-related heterogeneity shapes how strongly MarTech influences brand propensity and how reliably that propensity is carried forward toward realization.*
GREAT versus WEIRD contexts and contextual limits of digital signals	Karhade & Kathuria (2020)	Evidence derived from WEIRD settings may not generalize to GREAT domains, where institutional structures, participation conditions, and context shape whether digital artifacts carry behavioral relevance.	This literature establishes the contextual limitation of digital signals but does not integrate this insight with consumer journey, confidence formation, and offline execution mechanisms in high-stakes product categories.	*The present study extends this stream by applying GREAT-context reasoning to safety-critical building-material purchases. It shows that digital engagement may strongly shape confidence formation, but its translation into realized branded purchase depends on offline validators, financial feasibility, and legacy channel conditions.*

Chapter 3 — Conceptual Framework

3.1 Introduction to the Conceptual Framework

The preceding chapters established both the phenomenon motivating this study and the theoretical gaps it seeks to address. Chapter 1 outlined the emergence of digitally informed consumers in traditionally dealer-led building materials markets, while Chapter 2 reviewed relevant literature on technology adoption, consumer journeys, and digital transformation, highlighting the limitations of existing frameworks in explaining consumer behavior in high-physicality, legacy-channel contexts.

This chapter builds on those foundations by developing a conceptual framework that formally links consumer use of digital information to downstream decision outcomes. Rather than introducing **entirely new theory**, its purpose is to translate the phenomenon and insights developed earlier into a structured analytical model *that can subsequently be examined empirically*. In doing so, the chapter clarifies the role of digital tools, professional and channel-based validators, and contextual constraints within an evolving consumer decision process.

The framework proposed in this study adopts a consumer-centric and journey-based perspective. Rather than assuming firm-orchestrated or channel-dominated pathways, it conceptualizes decision-making as assembled by consumers themselves, who draw selectively on digital tools, offline discussions, and market actors over extended time horizons. Importantly, the framework does not presume that all influences operate symmetrically or sequentially. Instead, it recognizes that different elements of the journey exert influence at different points, with varying degrees of observability and stability.

At the core of the framework is a mediated relationship in which MarTech-enabled digital information use shapes Brand Propensity, which in turn governs Branded Purchase Realization (BPR).

This mediated pathway reflects the premise that digital engagement contributes to the formation of a stabilized confidence orientation toward a focal brand prior to purchase execution.

This focal pathway is embedded within a broader contextual environment that conditions how digital information is absorbed, validated, and ultimately realized. Demographic characteristics influence the translation of digital exposure into confidence, while professional and channel-based actors serve primarily as validators during later stages of the journey. Budgetary and

financial considerations, rather than shaping early preferences, may intervene at the point of execution as contextual disturbances.

The remainder of this chapter elaborates this framework in detail. It first conceptualizes the consumer journey as asymmetrical and layered, then defines the key constructs employed in the model, followed by the development of hypotheses linking these constructs. The chapter concludes by clarifying the scope and boundary conditions of the framework, setting the stage for the methodological design described in Chapter 4.

3.2 An Asymmetrical Consumer Journey Perspective

Traditional representations of consumer decision-making often assume either linear progression across stages or symmetrical influence from multiple actors within a unified process. Such representations are increasingly misaligned with observed behavior in categories where decisions are extended, consequential, and embedded within social and physical constraints. Findings from the qualitative and quantitative stages of this research indicate that the ***consumer journey in the building materials category is better understood as asymmetrical***, both in structure and in influence. *This asymmetry reflects the uneven accumulation of information, validation, and feasibility checks that characterize long-horizon construction decisions.*

In an asymmetrical journey, not all inputs operate with equal intensity, visibility, or timing. Digital information use, offline discussions, professional validation, and financial reconciliation do not form a balanced or orderly sequence. Instead, consumers accumulate information unevenly, revisit decisions selectively, and engage different actors for different purposes as the journey unfolds. This asymmetry is particularly pronounced in individual house-building contexts, where decision horizons span several months and involve multiple product categories, stakeholders, and budgetary trade-offs.

A defining feature of this asymmetrical journey is the persistent presence of peer discourse, particularly involving friends and family. Such discussions are not confined to a specific stage, nor do they act as discrete triggers for choice. Rather, they constitute a continuous conversational backdrop against which decisions are interpreted, justified, and reassessed. **Peer** inputs may reinforce confidence, surface concerns, or normalize uncertainty, but they rarely translate into clearly attributable causal effects. Their **influence is diffuse, informal, and deeply embedded in everyday interactions.**

Given this nature, peer influence is treated in this study as an unobservable background condition rather than a focal construct. Attempting to model friends-and-family influence as a direct causal variable would risk introducing recall bias, endogeneity, and interpretive noise, without materially improving explanatory clarity. Instead, such influence is acknowledged narratively and reflected indirectly through discussion-oriented indicators that capture the presence of peer engagement without assigning directional weight to it. *This treatment recognizes the social embeddedness of consumer decision-making while maintaining parsimony in the analytical model.*

Against this persistent background, **digital information use emerges as a focal and observable driver of consumer cognition.** Consumers engage with search engines, online video, manufacturer websites, messaging platforms, and digital communities in episodic but cumulative ways. These interactions enable consumers to reduce information asymmetry, compare alternatives, and progressively narrow their consideration sets. Unlike peer discourse, digital engagement leaves clearer traces in terms of frequency, depth, and perceived usefulness, making it amenable to conceptualization and measurement.

Importantly, the effects of digital engagement are not uniform across consumers. Demographic characteristics such as age, education, and income shape how effectively digital information is absorbed and translated into confidence. For some consumers, digital tools facilitate deep, diagnostic evaluation; for others, they support surface-level skimming or post-hoc confirmation. This variation underscores the need to treat demographics not as direct antecedents of choice, but as contextual filters that condition the impact of digital information use.

As decisions move closer to execution, consumers increasingly engage engineers, masons, and dealers not as originators of brand preference, but as institutional validators who govern feasibility, availability, and execution readiness.

Evidence from qualitative findings and interim quantitative analysis indicates that these actors rarely shape initial brand inclination in digitally informed journeys. Instead, their influence is exercised primarily at the execution stage, where they may affirm, redirect, or override pre-formed Brand Propensity based on technical judgment, site realities, or supply constraints.

This positioning reflects the layered structure of the consumer journey, in which cognitive formation occurs upstream while institutional validation governs downstream execution.

Finally, financial and budgetary considerations enter the journey most visibly at the point of realization. While consumers may maintain budget awareness throughout the planning process, active reconciliation between intended choices and financial constraints often occurs late, when purchases are imminent and trade-offs become salient. At this stage, finance-related cues may disrupt or redirect execution without necessarily reshaping underlying brand confidence.

Taken together, this perspective positions the consumer journey as layered rather than linear, asymmetrical rather than balanced, and consumer-assembled rather than channel-led. This conceptualization informs the structure of the framework developed in the following sections, guiding decisions regarding which constructs are modeled directly, which are treated as contextual moderators, and which are acknowledged narratively as part of the broader decision environment.

3.3 Core Constructs and Conceptual Definitions

The conceptual framework developed in this study is anchored around a limited set of core constructs, each representing a distinct role within the asymmetrical consumer journey described earlier. The selection and placement of these constructs are informed by qualitative insights, interim quantitative analysis, and the theoretical considerations discussed in Chapter 2.

In this sense, the constructs reflect an analytical translation of the observed journey dynamics rather than the imposition of a pre-specified model structure.

Importantly, the framework is deliberately parsimonious: only those constructs that are central to explaining the translation of digital cognition into purchase realization are modeled explicitly. Other influences, while acknowledged as part of the decision environment, are treated narratively or contextually to preserve analytical clarity.

This section defines each construct, clarifies its conceptual role, and specifies its temporal position within the consumer journey.

3.3.1 MarTech Usage (Independent Variable)

MarTech Usage represents consumer-side engagement with digital tools employed during the exploratory and evaluative phases of the purchase journey. In this study, MarTech is conceptualized not as the firm's deployment of marketing technology, but as the diagnostic use of digital interfaces by consumers to access, interpret, and compare brand-related information.

This construct encompasses interactions with search engines, online video platforms, manufacturer or dealer websites, digital communities, and messaging applications that facilitate information exchange. The emphasis is on use for cognition rather than on mere exposure or passive persuasion. MarTech Usage captures how consumers independently assemble knowledge, reduce uncertainty, and form an understanding of available options prior to substantial physical market engagement.

Conceptually, MarTech Usage functions as the cognitive ignition point of the framework. It precedes direct interaction with professional and channel-based validators and enables consumers to enter offline spaces with pre-formed views, preferences, and questions. Its influence is therefore positioned upstream of preference stabilization and purchase execution. Importantly, MarTech Usage does not imply digital transaction capability; rather, it reflects informational empowerment in categories where physical inspection and offline fulfillment remain essential.

3.3.2 Brand Propensity (Mediating Construct)

Brand Propensity (BP) represents the central mediating construct of the framework. It captures the consumer's internalized confidence and readiness to commit to a specific brand following digital exploration but prior to final purchase execution. Brand Propensity is conceptualized as a decision confidence state, integrating cognitive understanding with affective assurance.

Unlike traditional constructs such as attitude, preference strength, or purchase intention, Brand Propensity reflects a stabilized orientation toward a brand that is resilient to casual counter-suggestions yet remains subject to contextual testing. It embodies the extent to which consumers feel informed, justified, and personally invested in their choice. This investment often arises from the time and effort spent engaging with digital content, comparing alternatives, and reconciling information across sources.

Within the framework, Brand Propensity serves as the transmission mechanism through which digital information use influences behavioral outcomes. It translates MarTech-enabled cognition into a form of commitment that can be validated, enacted, or disrupted at later stages. The mediating role of Brand Propensity is critical to distinguishing between information acquisition and purchase realization, particularly in high-involvement, high-risk categories.

Conceptually, Brand Propensity is treated as a pre-execution confidence state—formed after evaluation but before feasibility confirmation—whereas intention is typically modeled as a plan to act and attitude as a general evaluative disposition.

Positioning Brand Propensity at this formation–execution interface allows the framework to distinguish between cognitive resolution and the institutional validation that governs final purchase realization.

3.3.3 Branded Purchase Realization (BPR) (Dependent Variable)

Branded Purchase Realization (BPR) represents the behavioral realization of the consumer's intended brand choice. It captures whether the brand toward which the consumer developed Brand Propensity is ultimately purchased. This construct is deliberately focused on execution consistency rather than on downstream outcomes such as satisfaction, loyalty, or advocacy.

In the context of building materials, purchase realization is often staged and contingent on logistical coordination, validator approval, and late-stage feasibility constraints. As such, BPR reflects whether the consumer's confidence is carried through to action despite intervening validation and execution disturbances.

Conceptually, BPR is treated as a behavioral endpoint rather than an attitudinal measure, enabling the framework to examine how digital cognition and confidence translate into realized market outcomes.

3.3.4 Demographic Characteristics as Contextual Filters

Demographic characteristics—specifically age, education, and income—are incorporated into the framework as contextual filters that shape how consumers absorb, interpret, and translate digital information into confidence. Rather than functioning as direct drivers of brand choice, these attributes condition the efficiency, depth, and diagnostic quality of digital engagement.

Within the framework, demographics moderate the relationship between MarTech Usage and Brand Propensity by influencing how effectively consumers convert digital exposure into stabilized decision confidence. For instance, higher levels of education or stronger digital familiarity may facilitate deeper comparison, verification, and evaluative processing, thereby strengthening confidence formation. Conversely, consumers with lower digital fluency or greater resource constraints may engage more superficially with digital content and rely more heavily on downstream validation.

Occupational background is acknowledged as a source of heterogeneity in consumer behavior; however, due to observed contextual noise and variability, it is not treated as a primary explanatory driver within the model. This positioning preserves analytical clarity while capturing meaningful differences in cognitive absorption across demographic segments.

By treating demographics as contextual filters rather than deterministic predictors, the framework accounts for heterogeneity in digital processing while remaining consistent with the asymmetrical journey perspective—recognizing that not all consumers convert digital engagement into confidence with equal effectiveness.

3.3.5 Influencer Index as Pre- and Post-Decision Validation Context

The Influencer Index captures the degree to which consumers seek and rely on engineers, masons, and dealers for validation both during early evaluation and after forming an initial brand inclination. Unlike traditional influencer models that emphasize persuasion or preference shaping, this construct is conceptualized as validation-oriented, reflecting reassurance, feasibility checks, and execution readiness rather than primary preference formation.

Although labeled as an "Influencer Index" in the empirical specification—reflecting the terminology used in the survey instrument—the construct is conceptually interpreted in this study as a validator role. Engineers, masons, and dealers primarily function as institutional validators who confirm feasibility and execution readiness rather than as originators of brand preference.

Evidence from qualitative interviews and interim quantitative analysis suggests that while validators may occasionally contribute input during upstream exploration, their dominant influence is exercised downstream, at the point where Brand Propensity is translated into Branded Purchase Realization (BPR). Rather than initiating brand choice in digitally informed journeys, these actors primarily confirm technical suitability, assess practical fit, and govern execution feasibility.

Accordingly, the empirical variable termed Influencer Index is interpreted conceptually as a measure of validator reliance within the execution stage of the consumer journey.

Within this framework, the Influencer Index is positioned as a conditional force that moderates both the stabilization of Brand Propensity and its behavioral realization, with stronger emphasis on execution-stage validation. Higher reliance on validators may facilitate realization when alignment exists, or introduce friction, delay, and redirection when concerns arise. Importantly,

this construct does not substitute for Brand Propensity; it governs how confidence is operationalized rather than how it originates.

3.3.6 Budget and Finance as Late-Stage Disturbance

Budgetary awareness and financial considerations are incorporated into the framework as execution-stage moderators and are examined in robustness extensions, rather than being modeled as formative drivers of brand preference. Although consumers may remain broadly budget-conscious throughout the planning process, active reconciliation between intended choices and financial feasibility typically intensifies as purchase execution approaches.

In this study, budget and finance are conceptualized as contextual forces that may disrupt, delay, or redirect Branded Purchase Realization (BPR) without necessarily weakening underlying Brand Propensity. Consumers may retain strong confidence in a preferred brand while adjusting execution decisions in response to affordability constraints, financing availability, or cost trade-offs across construction categories.

Given this role, budgetary dynamics are not modeled as mediators or antecedents within the core causal pathway. Instead, they are treated as late-stage disturbances that condition realization outcomes while preserving the conceptual distinction between cognitive preference formation and practical feasibility constraints at execution.

3.3.7 Treatment of Unobservable Peer Influence

Finally, peer influence—particularly from friends and family—is recognized as a persistent background condition shaping consumer sense-making throughout the decision journey. Rather than functioning as a discrete causal driver, peer influence operates primarily through homophilous reinforcement, whereby consumers seek affirmation from socially similar others who share comparable values, experiences, and socioeconomic context.

These interactions contribute to confidence-building, normalization of uncertainty, and post-hoc justification of choices, but they do not typically serve as identifiable triggers of brand selection. Given the diffuse, conversational, and ongoing nature of peer discourse, it is treated as an ambient contextual force rather than an explicitly modeled construct.

Accordingly, peer influence is acknowledged narratively and reflected indirectly through discussion-oriented indicators, without being assigned a direct causal role within the analytical

model. *This treatment preserves conceptual realism while maintaining parsimony in the empirical specification of the framework.*

3.4 Development of the Conceptual Model

Building on the conceptual definitions outlined in the previous section, this study proposes a structured framework that explains how digitally enabled consumer cognition translates into Branded Purchase Realization (BPR) in a legacy, high-physicality category.

The structure of the framework follows directly from the asymmetrical journey perspective and the construct roles described earlier.

The framework is organized around a mediated core relationship, embedded within contextual conditions that shape, validate, or constrain this translation across different stages of the consumer journey.

At the center of the model lies the proposition that MarTech Usage influences Branded Purchase Realization indirectly through Brand Propensity. This mediated structure reflects both empirical evidence and theoretical insight that digital engagement does not mechanically result in purchase; rather, it operates by shaping an internal confidence state that precedes execution. Consumers do not act merely on information exposure—they act once information has been interpreted, justified, and stabilized into a sense of readiness and assurance.

This mediated pathway aligns with the extended, deliberative nature of decision-making in building materials. Purchase journeys often unfold over long horizons, spanning several months, during which consumers repeatedly engage with digital content, revisit alternatives, and reconcile emerging information. Brand Propensity captures the cumulative cognitive outcome of this process, representing the point at which consumers perceive their choice as sufficiently resolved to progress toward execution.

Surrounding this core mediation are contextual forces that operate asymmetrically across stages of the journey:

• Demographic characteristics—particularly age, education, and income—condition how effectively MarTech Usage translates into Brand Propensity, shaping the depth, quality, and efficiency of digital information processing without exerting direct influence on execution outcomes. This upstream contextualization accounts for heterogeneity in cognitive absorption while preserving the primacy of MarTech-enabled formation mechanisms.

• Validator authority, exercised by engineers, masons, and dealers, operates both during evaluation and more decisively at execution. While these actors may contribute limited input during earlier stages, their dominant influence lies in conditioning whether Brand Propensity is successfully carried through to Branded Purchase Realization. The Influencer Index moderates both the stabilization of confidence and its translation into realized purchase, reinforcing execution when alignment exists or introducing friction, delay, or redirection when concerns arise. Importantly, this validation role governs execution rather than substituting for digital cognition in preference formation.

• Budgetary and financial dynamics function as late-stage moderating disturbances rather than formative drivers of brand choice. Although consumers may remain broadly budget-aware throughout the journey, active financial reconciliation typically intensifies as execution approaches, when trade-offs become unavoidable. At this stage, even strongly held brand preferences may be constrained, deferred, or adjusted due to affordability pressures, financing availability, or cross-category spending considerations—without necessarily eroding underlying Brand Propensity.

Finally, the framework explicitly recognizes the presence of homophilous social discourse, particularly among friends and family, as a persistent ambient influence shaping sense-making and justification. Rather than modeling peer interaction as a discrete causal pathway, it is treated as part of the broader decision environment within which cognition, validation, and execution unfold. This choice reflects both empirical observation and methodological discipline, acknowledging social embeddedness while avoiding attribution error and over-parameterization.

Taken together, the conceptual model reflects a layered and asymmetrical consumer journey, in which digital cognition initiates confidence formation, contextual filters shape its strength, validators govern its execution, and financial and social constraints condition final realization.

The model therefore represents an analytical synthesis of the journey dynamics and construct roles discussed in earlier sections.

By departing from symmetric, channel-driven representations, the model foregrounds consumer agency while recognizing the institutional and feasibility constraints that ultimately govern behavior in structurally grounded markets.

The conceptual relationships derived from this journey perspective are summarized in **Figures 3.1 and 3.2, which present the framework in structural and process-oriented representations respectively.**

Figure 3.1 presents the simplified conceptual framework that guides the empirical analysis.

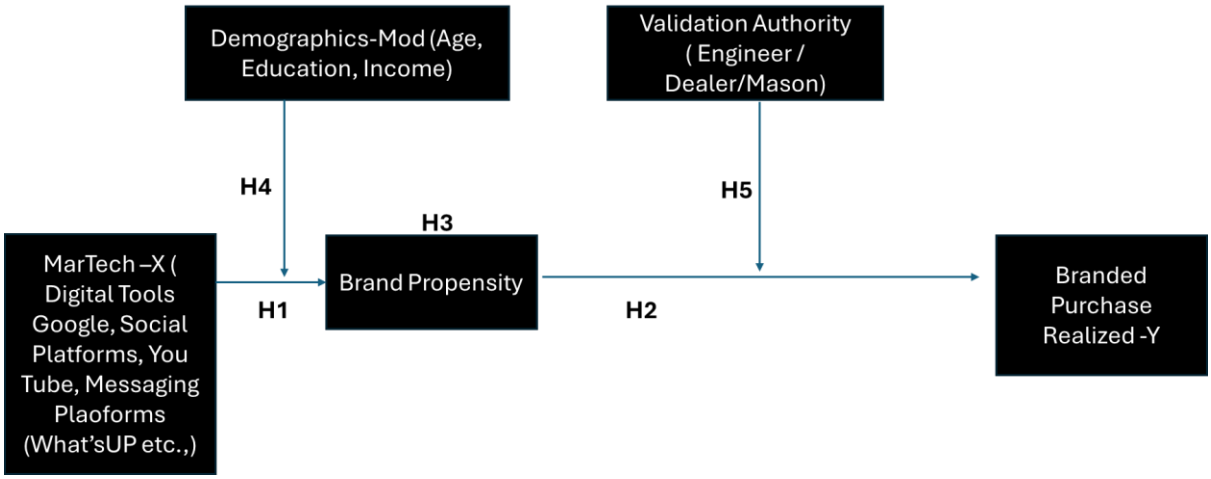
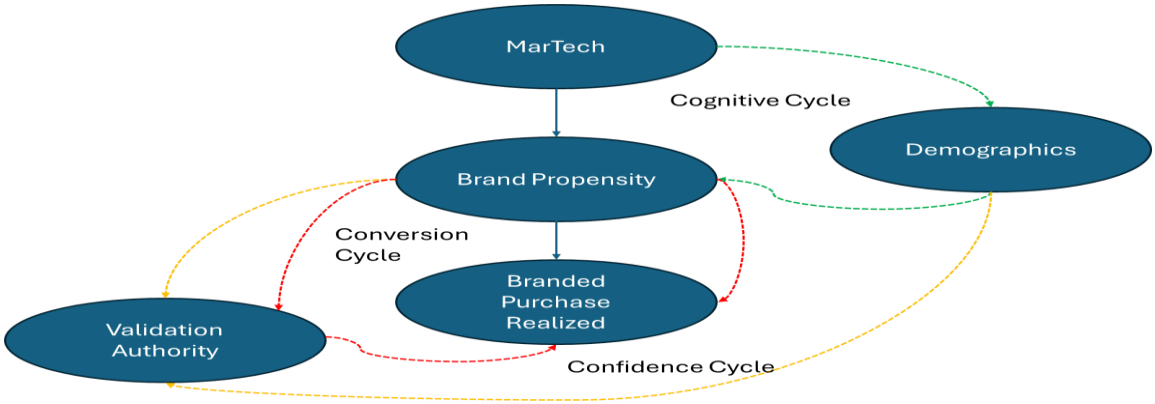


Figure 3.2 illustrates the journey dynamics at a process level; formal validator effects are specified in the structural model in Figure 3.1.



3.5 Hypothesis Development

The conceptual framework developed in the previous sections gives rise to a focused set of research questions and hypotheses.

These research questions emerge directly from the journey dynamics and construct relationships described earlier.

The research questions are:

RQ1 – MarTech → Brand Propensity

How does consumer MarTech Usage during exploratory and evaluative phases influence Brand Propensity (decision confidence toward a specific brand)?

RQ2 – Brand Propensity → BPR

To what extent does Brand Propensity, as a pre-execution confidence state, increase the likelihood that the preferred brand is carried through to Branded Purchase Realization (BPR)?

RQ3 – Mediation

Does Brand Propensity mediate the relationship between MarTech Usage and BPR, such that digital information use operates primarily through confidence formation?

RQ4 – Demographic Moderation (Upstream)

Do demographic characteristics (age, education, income) condition how effectively MarTech Usage translates into Brand Propensity?

RQ5 – Influencer Index Moderation (Downstream)

How does the Influencer Index (reliance on engineers, masons, dealers for validation) condition the translation of Brand Propensity into BPR at execution?

In summary, RQ1–RQ3 test the core mediated pathway (MarTech Usage → Brand Propensity → BPR), RQ4 examines demographic characteristics as upstream contextual filters shaping confidence formation, and RQ5 examines validator authority as execution-stage governance rather than preference origination.

The following hypotheses operationalize these research questions for empirical testing.

They represent empirical expressions of the conceptual relationships described in the framework.

3.5.1 MarTech Usage and Brand Propensity (RQ1)

Digital tools enable consumers to access information beyond the confines of physical markets, reducing dependence on offline actors for early-stage sense-making. Through repeated and self-directed engagement with digital content, consumers are able to compare alternatives, understand product attributes, and develop evaluative criteria aligned with their needs. Over time, this process contributes to the formation of decision confidence and readiness toward a specific brand.

Accordingly, this study posits that greater diagnostic use of MarTech is associated with higher levels of Brand Propensity.

H1 (RQ1 – Formation core path):
MarTech Usage positively influences Brand Propensity.

3.5.2 Brand Propensity and Branded Purchase Realization (BPR) (RQ2)

Brand Propensity represents a stabilized internal confidence state that reflects both cognitive understanding and affective assurance. In extended decision contexts, such confidence is a necessary precursor to action, particularly when purchases involve irreversible or high-stakes commitments. Consumers who exhibit stronger Brand Propensity are therefore more likely to carry their intended choice through to execution.

Based on this reasoning, Brand Propensity is expected to positively influence Branded Purchase Realization (BPR).

H2 (RQ2 – Execution core path):

Brand Propensity positively influences Branded Purchase Realization (BPR).

3.5.3 Mediating Role of Brand Propensity (RQ3)

While MarTech Usage facilitates information acquisition, its influence on purchase realization is not expected to be direct. Instead, digital engagement shapes behavior insofar as it contributes to confidence formation. This mediated structure reflects the distinction between exposure to information and commitment to action, particularly in categories characterized by prolonged evaluation and delayed execution.

Thus, Brand Propensity is expected to mediate the relationship between MarTech Usage and Branded Purchase Realization.

H3 (RQ3 – Mediation):
Brand Propensity mediates the relationship between MarTech Usage and Branded Purchase Realization, such that the effect of MarTech Usage on BPR operates primarily through Brand Propensity.

3.5.4 Demographic Context and Brand Propensity Formation (RQ4)

Consumers differ in their ability to interpret, evaluate, and integrate digital information. Demographic characteristics such as age, education, and income influence cognitive absorption

and digital fluency, thereby conditioning how effectively MarTech Usage translates into confidence.

Rather than exerting direct influence on execution outcomes, demographics are expected to operate as contextual moderators shaping the formation of Brand Propensity.

H4 (RQ4 – Demographic conditioning via MGA):
Demographic characteristics (age, education, income) condition the relationship between MarTech Usage and Brand Propensity, such that the strength of the MarTech Usage → Brand Propensity path differs across demographic segments.

3.5.5 Post-Decision Validation and Purchase Realization (RQ5)

After forming a preference, consumers often seek reassurance from professional or channel-based actors such as engineers, masons, and dealers to confirm feasibility, appropriateness, and execution readiness. The extent of such validation may influence whether confidence is smoothly translated into a realized purchase or subjected to further deliberation, delay, or redirection.

Accordingly, validation is conceptualized as a conditional, execution-stage influence that moderates how Brand Propensity is expressed behaviorally rather than how it is formed. While professional and channel-based actors may be consulted at multiple points in the journey, qualitative evidence indicates that their primary role in digitally informed journeys is not preference formation but institutional governance of execution.

Their influence is therefore 51odelled as validation-oriented and execution-stage conditional, rather than as a symmetric driver of brand confidence.

H5 (RQ5 – Validator conditioning at execution):
Reliance on professional and channel-based validators (Influencer Index) conditions the relationship between Brand Propensity and Branded Purchase Realization, reinforcing realization when validators align with Brand Propensity and attenuating or redirecting realization when they do not.
The hypotheses articulated above correspond to the relationships depicted in the conceptual framework (Figure 3.1). They are not individually labeled on the figure in order to preserve its conceptual orientation, but together they provide a direct empirical translation of the research questions and the consumer-assembled journey logic developed in this chapter.

3.6 Boundary Conditions and Scope of the Conceptual Model

The conceptual framework developed in this chapter is intentionally focused on explaining how consumer-side digital information use translates into Branded Purchase Realization (BPR) in a legacy, high-physicality category. While the framework captures the central cognitive and contextual mechanisms shaping this translation, it does so within clearly defined boundaries *that reflect the structural characteristics of building-material purchasing contexts.*

First, the framework does not assume uniform depth of digital engagement across all consumers. Although MarTech Usage is conceptualized as a driver of Brand Propensity, the extent to which digital exposure results in stabilized confidence may vary. Where engagement with digital content is superficial, confirmatory, or limited to skimming, Brand Propensity may remain weakly formed. Under such conditions, consumers may rely more heavily on offline validators or exhibit greater susceptibility to late-stage reassessment. These variations are treated as empirical heterogeneity rather than as deviations from the core causal mechanism.

Second, the framework distinguishes between consumer-centric digital cognition and firm-centric digital presence. The model does not presume that the availability of digital content or firm-led digital initiatives automatically translates into consumer understanding or confidence. Instead, emphasis remains on how consumers actively use digital tools to assemble knowledge. Where such usage does not culminate in sufficient cognitive resolution, downstream validator authority may exert greater relative influence at the point of execution.

Third, professional and channel-based actors are conceptualized as validators rather than originators of brand preference. The framework does not deny their involvement in the decision process; rather, it positions their influence as contingent on the strength of pre-existing Brand Propensity. This treatment reflects observed behavior in which validators confirm, operationalize, or constrain choices rather than fundamentally reshaping them.

Fourth, budgetary and financial considerations are acknowledged as integral to real-world decision-making but are not modeled as antecedents of preference formation. Their role is bounded to late-stage realization, where reconciliation between intended choices and feasibility constraints becomes salient. By treating finance as a contextual disturbance rather than a formative driver, the framework preserves conceptual clarity while remaining faithful to observed execution dynamics.

Finally, persistent social discourse—particularly among friends and family—is recognized as an ambient and homophilous background influence throughout the journey. Given its diffuse and largely unobservable nature, such influence is incorporated narratively rather than parametrically. This choice reflects a methodological boundary aimed at balancing explanatory completeness with analytical discipline.

Together, these boundaries define the scope within which the framework is intended to operate. They clarify both the explanatory focus of the model and the contextual conditions under which its mechanisms are expected to hold, while also identifying what the model seeks to explain and, equally importantly, what lies outside its immediate analytical scope.

While the hypotheses H1–H5 provide a complete and testable representation of the conceptual model developed in this chapter, the staged design of the study leaves open the possibility that large-sample structural analysis may reveal additional conditioning mechanisms. In particular, subsequent chapters revisit the roles of validators and feasibility constraints to examine whether their influence is fully captured by the present specification or whether operational extensions to the hypothesis set are warranted.

As reported in Chapter 6, Stage D evidence ultimately motivates two such extensions (H6 and H7), which refine how validator consulting and budget dynamics are positioned within the formation–execution pathway without altering the core logic of H1–H5.

3.7 Chapter Summary

This chapter developed a conceptual framework explaining how digitally enabled consumer cognition translates into Branded Purchase Realization (BPR) in a legacy-channel context. Drawing on prior literature and grounded empirical insight, the framework positions MarTech Usage as a primary driver of Brand Propensity, which in turn governs realized purchase through a mediated pathway.

The chapter conceptualized the consumer journey as asymmetrical and layered, characterized by cumulative digital cognition, homophilous but unobservable peer discourse, selective offline validation, and late-stage execution under institutional and feasibility constraints. Demographic characteristics were framed as contextual filters shaping cognitive absorption, while professional and channel-based actors were positioned as validators rather than preference originators. Budgetary and financial considerations were treated as execution-stage disturbances affecting realization rather than formation of brand confidence.

By articulating clear construct definitions, causal logic, and boundary conditions, the chapter establishes the analytical foundation for empirical examination.

The conceptual relationships summarized in Figures 3.1 and 3.2 provide the basis for the empirical tests developed in the following chapter.

The hypotheses developed here guide the methodological approach detailed in the following chapter, which outlines the research design, data collection procedures, and analytical techniques used to evaluate the proposed framework.

Chapter 4: Research Design and Methodology

4.1 Research Design and Overall Analytical Logic

This thesis adopts a sequential mixed-methods research design to develop, refine, and empirically test a consumer-centric mechanism of branded decision-making in the building materials category. The design choice is guided by the nature of the consumer journey in individual house construction, which unfolds over extended time horizons and requires consumers to undertake substantial cognitive, evaluative, and coordination effort prior to purchase realization.

The research is motivated by a phenomenon observed during early-stage field immersion and subsequent qualitative engagement: individual house-building consumers undertake the bulk of decision-making effort themselves across the journey, spanning initial exploration, brand evaluation, comparison, and confidence formation, before engaging with sellers for execution and closure. While the final transaction remains embedded in offline processes such as physical verification, negotiation, logistics, and payment settlement, much of the preparatory work—information search, shortlisting, and brand justification—occurs earlier in the journey and is carried forward by the consumer.

This structure reveals a temporal separation within the consumer journey. Early stages are characterized by intensive cognitive activity undertaken by the consumer, whereas later stages involve interaction with intermediaries who validate, condition, or occasionally disturb the decision during realization. As a result, evaluation and execution are not co-located within the same moment, channel, or actor. Instead, the journey is hybrid and asymmetrical, with different influences dominating at different points in time.

Accordingly, the central objective of the research design is not to examine whether digital channels substitute for offline channels, nor to test technology adoption in isolation. Rather, the study seeks to explain how early-stage information engagement within the consumer journey contributes to an internal confidence state—conceptualized as Brand Propensity—and how this confidence is subsequently translated into a realized branded purchase as the journey progresses toward financial and transactional closure. Addressing this objective requires a design that allows constructs and sequencing to emerge from observed journey behavior before being subjected to formal empirical testing.

The study therefore proceeds in four analytically distinct but logically connected stages, each aligned with a specific phase of the consumer journey:

1. Stage A: Early-stage phenomenon articulation and field immersion

Initial field immersion was used to map the overall structure of the consumer journey, identifying how consumers move from initial problem recognition through evaluation and toward execution. This stage was critical in moving beyond linear or funnel-based assumptions and grounding the inquiry in how decisions unfold over time in real construction contexts.

2. Stage B: Qualitative interviews and construct emergence

Qualitative interviews with individual house builders and key ecosystem stakeholders—including dealers, engineers, and masons—were conducted to deepen understanding of journey-stage activities. These interviews surfaced how consumers describe their own effort in gathering information, narrowing options, developing conviction, and seeking reassurance as they approach purchase. This phase enabled construct identification and sequencing without imposing a priori theoretical structures, ensuring that subsequent measurement reflected the lived journey rather than an abstract decision model.

3. Stage C: Exploratory quantitative diagnosis

An exploratory quantitative phase *that built on the qualitative grounding of Stages A and B* was undertaken using structured, field-administered instruments. This phase comprised approximately 135 field observations, including 75 in-depth consumer engagements and 59 validator-facing inputs drawn from interactions with dealers, engineers, and masons. The purpose of *this diagnostic stage* was explicitly *exploratory and directional*: to examine whether the journey-based sequencing suggested by qualitative insights—namely, early information engagement preceding confidence formation, and confidence formation preceding purchase realization—was empirically plausible in observed data. Analyses at this stage were treated as analytical checkpoints rather than as generalizable hypothesis tests.

4. Stage D: Confirmatory testing of the mediated journey mechanism

Stage D extends the journey-based framework to a larger and more heterogeneous consumer dataset collected across multiple regions. While earlier stages were intentionally situated within a focused context to enable journey mapping, construct emergence, and directional validation, Stage D broadens the empirical scope to test whether the mediated pathway—MarTech

Engagement → Brand Propensity → Branded Purchase Realization (BPR)—holds consistently across varied consumption environments and journey conditions.

Stage D is therefore positioned as confirmatory rather than exploratory. Its purpose is to validate the mediated journey mechanism within a unified analytical framework, examining whether early-stage cognitive effort undertaken by consumers is systematically carried forward through Brand Propensity and converted into Branded Purchase Realization (BPR). Structural Equation Modelling (SEM) is employed not to discover relationships opportunistically, but to formally test a theoretically grounded and empirically pre-validated structure that emerged from qualitative grounding and diagnostic evidence in earlier stages.

Taken together, these four stages reflect the overall research roadmap of the thesis: phenomenon observation, qualitative grounding, diagnostic validation, confirmatory structural modelling, and subsequent heterogeneity analysis. The methodological logic therefore mirrors the empirical journey of the research itself rather than imposing a single-method design from the outset.

Figure 9.4.1 in Appendix 9.4 visually summarizes this ABCD analytical sequence, showing how each stage built upon prior insights while surfacing new questions that motivated subsequent methodological refinement.

4.2 Research Context and Unit of Analysis

The empirical setting of this study is the state of Telangana, with data collected from selected districts characterized by active individual house construction. These districts provide a context in which consumers are directly responsible for navigating the full construction-related consumer journey, from early-stage material exploration and brand evaluation to purchase execution and financial closure. Such settings preserve core characteristics central to the study, including high financial stakes, irreversible structural outcomes, extended decision timelines, and reliance on contextual validation as the journey progresses toward realization.

The study focuses on individual house builders (IHBs) as the primary decision-makers. In this context, consumers typically engage in episodic, high-involvement decisions with limited prior category experience and high perceived risk. As a result, the consumer journey is marked by substantial self-directed effort, including information search, comparison of alternatives, confidence formation, and preparatory justification, followed by consultation and coordination

during execution. This makes IHB settings particularly suitable for examining how early-stage cognition is carried forward and translated into realized purchase outcomes over time.

Across all quantitative stages, the unit of analysis is the individual consumer. While engineers, masons, dealers, and peers play meaningful roles during later stages of the journey—particularly in validation, feasibility assessment, negotiation, and execution—they are not treated as independent analytical units in Stage D. Instead, their influence is captured through consumer-reported validation and consultation measures. This reflects the study's conceptual framing, which positions intermediaries as downstream validation authorities that condition execution rather than as primary drivers of early-stage brand cognition.

By situating the study within district-level individual house construction contexts and maintaining the consumer as the unit of analysis, the research ensures close alignment between the temporal structure of the consumer journey and the theoretical mechanisms under investigation. This alignment is critical for examining how early-stage information engagement and confidence formation translate into branded purchase realization under real-world execution constraints.

4.3 Sampling Strategy and Data Sources

The study follows a staged sampling strategy aligned with its sequential mixed-methods design. Each stage serves a distinct analytical purpose corresponding to different phases of the consumer journey, and sampling decisions were guided by **theoretical relevance and methodological rigor rather than by uniform representativeness across stages**.

Stage A: Qualitative Exploration and Phenomenon Grounding

The qualitative phase involved in-depth interviews with individual house builders and key ecosystem participants, including dealers, engineers, and masons, across multiple districts in Telangana. Participants were purposively selected to capture variation in construction stage, exposure to information sources, and reliance on validation mechanisms as the consumer journey unfolded.

The objective of this phase was theoretical saturation rather than statistical generalization. Through iterative engagement across stakeholders, this stage enabled identification of recurring patterns in how consumers navigate early-stage exploration, confidence formation, and late-stage validation during purchase execution. These insights were foundational in

articulating the structure of the consumer journey and informing subsequent construct development.

In addition to grounding the phenomenon empirically, the qualitative phase helped clarify the sequential ordering of decision processes that characterize individual house building purchases. Specifically, consumers were observed to engage in extended digital exploration prior to interacting with market actors, followed by confidence formation based on accumulated information, and finally by execution-stage validation through offline experts such as engineers, masons, and dealers.

Stages B and C: Quantitative Diagnostic Validation

Insights from the qualitative phase informed the development of a structured survey instrument, which was administered through field-based data collection during Stages B and C. Together, these stages yielded approximately 135 structured field observations, consisting of verified consumer cases complemented by validator-facing inputs designed to clarify late-stage disturbances, switching behavior, and execution-related gaps during purchase realization.

Stages B and C were explicitly diagnostic in intent. Their purpose was to validate construct sequencing, assess scale behavior, and examine whether the journey-based ordering suggested by qualitative insights—early information engagement preceding confidence formation, and confidence formation preceding purchase realization—was plausible in observed data. Findings from this diagnostic phase were used to refine construct definitions and measurement logic prior to large-scale deployment, rather than to test hypotheses or claim generalizability.

In particular, the diagnostic analysis examined whether the proposed cognition–confidence–realization structure was empirically plausible and whether the preliminary measurement indicators exhibited acceptable distributional behavior and internal consistency. These insights enabled refinement of the questionnaire instrument and strengthened the construct specification used in the subsequent large-scale survey.

Stage D: Large-Scale Consumer Survey

Stage D constitutes the principal quantitative phase of the study and is explicitly designed to enhance the external validity of the findings. Building on the construct clarity and directional sequencing established during Stages A–C, the Stage D questionnaire was administered to individual house builders across multiple regions, extending beyond the original field setting.

The Stage D data collection generated over 600 responses, representing a diverse set of geographic contexts, construction environments, and consumer profiles. Standard screening procedures—including consent verification, completion checks, and response consistency filters—were applied to derive the final analytic dataset. After these procedures, **506 valid responses** were retained for analysis.

This expanded sampling frame allows the study to examine whether the cognition–confidence–realization mechanism identified through qualitative grounding, and diagnostic validation remains stable across heterogeneous settings. By doing so, Stage D strengthens the generalizability of the findings while preserving conceptual continuity with the underlying framework.

4.3.1 Statistical Power and Sample Adequacy

To assess whether the available dataset was sufficient for the proposed structural analysis, an a priori statistical power analysis **was conducted using the software G*Power**. The analysis employed a linear multiple regression specification corresponding to the structural equations of the proposed framework. Assuming a medium effect size ($f^2 = 0.15$), significance level $\alpha = 0.05$, statistical power of 0.95, and three predictors per equation, the minimum required sample size was estimated at **119 observations**.

The final analytic dataset used in Stage D comprised **506 valid responses**, substantially exceeding the required threshold. The available sample therefore provides adequate statistical power for estimating the structural relationships examined in the study. Moreover, the available sample size provides sufficient observations for subgroup-based exploratory analysis, subject to the distribution of cases across groups.

Across stages, geographic scope is deliberately aligned with analytical intent: **early stages prioritize contextual depth and journey mapping, while Stage D prioritizes robustness and generalizability of the proposed mechanism.**

Taken together, this staged sampling strategy ensures both conceptual grounding and empirical robustness, enabling the study to move systematically from phenomenon exploration to large-scale structural testing.

4.4 Instrument Development and Construct Operationalization

The development of the survey instrument followed a progressive, theory-informed and field-grounded process, consistent with the sequential mixed-methods design adopted in this study. Rather than relying on pre-existing scales in isolation, the instrument was constructed to reflect the consumer journey and its temporal staging, drawing directly on the decision language, cognitive cues, and validation mechanisms observed during the qualitative phase, while maintaining alignment with the conceptual framework articulated in Chapter 3.

4.4.1 Instrument Development Process

Instrument development proceeded iteratively across stages. Insights from the qualitative exploration were first used to identify salient decision elements across the consumer journey, including early-stage information engagement, confidence formation, consultation behavior, and purchase realization as the journey moved toward execution and financial closure. These elements were then translated into structured survey items using language that mirrored how consumers described their own decision processes, thereby enhancing ecological validity.

The initial instrument was refined during *the diagnostic field phase* through field administration, enabling assessment of item clarity, response variance, and sequencing logic. Feedback from this stage informed minor rewording, scale balancing, and ordering adjustments prior to large-scale deployment in Stage D. This iterative approach ensured that the final instrument captured theoretically relevant constructs without imposing artificial structure on respondent cognition, while preserving the time-ordering consumers expressed in their own accounts of the journey.

Across stages, care was taken to preserve construct continuity, so that observed relationships in *the diagnostic stage* could be meaningfully examined and validated in Stage D. A central objective of the instrument design was to ensure a transparent and theoretically coherent transition from the field-observed phenomenon to analytically tractable constructs suitable for large-scale empirical testing. Rather than treating variables as abstract inputs, the study explicitly maps observed decision patterns to measurable construct domains, anchored in when and how they arise in the consumer journey.

The qualitative phase revealed a recurring structure in consumer decision-making. Consumers described (i) engaging with information sources prior to approaching sellers, (ii) arriving at a state of relative confidence or clarity regarding brand choice, and (iii) encountering late-stage

influences that could either stabilize or disturb realization at the point of purchase. These stages were consistently observed across interviews, though their intensity and sequencing varied by context and consumer profile.

This observed progression informed the construct architecture used in subsequent quantitative stages. Early-stage information engagement was formalized as MarTech engagement, capturing the extent and nature of consumers' interaction with digital information during brand evaluation. The internal confidence state described by consumers—often expressed as certainty, readiness to recommend, or decisional closure—was conceptualized as Brand Propensity. Finally, the outcome of interest was operationalized as Branded Purchase Realization (BPR), reflecting whether the realized purchase aligned with the consumer's pre-purchase orientation as the journey culminated in execution and closure.

Importantly, the study does not assume deterministic progression from one stage to the next. Instead, the transition from Brand Propensity to purchase realization is explicitly treated as contingent, conditioned by contextual validation and situational constraints encountered during later stages of the journey. This conceptualization motivated the inclusion of consultation and validation measures as conditioning variables rather than as parallel drivers of brand cognition.

During *the diagnostic stage*, these constructs were examined diagnostically to confirm that the proposed sequencing—information engagement preceding confidence formation, and confidence formation preceding realization—was plausible in observed data. Only after this directional stability was established were the constructs carried forward unchanged into Stage D for confirmatory testing within a structural framework.

Thus, the variables used in Stage D are not post hoc abstractions but represent a progressive formalization of the phenomenon observed in the field, refined through qualitative articulation and quantitative diagnostics before being subjected to full SEM analysis.

4.4.2 Construct Operationalization

Consistent with the conceptual framework, the instrument operationalizes four primary construct domains: MarTech engagement, Brand Propensity, Branded Purchase Realization (BPR), and contextual moderators. All items were measured at the consumer level.

MarTech Engagement (Independent Variable)

MarTech engagement captures the extent to which consumers engage with and rely on digital information sources during early stages of brand evaluation. Rather than measuring technology adoption per se, items focus on diagnostic digital cognition, including frequency of exposure, perceived usefulness, ease of understanding, and trust in online information prior to purchase.

Items were measured using five-point Likert scales, allowing respondents to express gradations in engagement rather than binary usage. This construct reflects how digital information is cognitively processed during early journey stages, not merely whether it is accessed.

Brand Propensity (Mediating Construct)

Brand Propensity represents the consumer's internal confidence state with respect to brand choice. It captures clarity, conviction, and readiness to justify a chosen brand, rather than affective liking or habitual preference. This distinction is central to the study's theoretical contribution.

Operationally, Brand Propensity was measured using items related to recommendation certainty, confidence in the selected brand, and perceived decisional closure prior to purchase execution. These items were designed to reflect stabilization of choice, serving as a bridge between early-stage evaluation and purchase realization. **Brand Propensity is treated as a mediating construct linking early-stage information engagement with realized outcomes**.

Branded Purchase Realization (Dependent Variable)

Branded Purchase Realization (BPR) captures whether the consumer's final purchase aligns with the brand toward which Brand Propensity had been formed earlier in the journey. It is operationalized as a realization indicator, distinguishing between cases where the intended brand was purchased and cases involving switching, mixing, or deviation at the execution stage.

This operationalization reflects the study's emphasis on behavioral realization rather than stated intention, recognizing that high-stakes construction purchases may be subject to late-stage validator intervention, supply constraints, pricing disturbances, or financial feasibility pressures even after confidence has been established.

4.4.3 Contextual and Moderating Variables

In addition to the core constructs, the instrument includes a set of contextual variables designed to examine conditional variation in the strength of the proposed mechanism, rather than to introduce competing explanatory paths.

Demographic variables such as age, education, occupation, and income are included to capture differences in cognitive capacity, experience, and decision context. These variables are used to examine whether the translation of early-stage information engagement into Brand Propensity varies systematically across consumer profiles.

The instrument also captures consultation and validation context through consumer-reported measures indicating interaction with dealers, engineers, masons, peers, and other reference points during later stages of the decision journey. These measures allow examination of how offline validation conditions the conversion of Brand Propensity into realized purchase outcomes, consistent with the framework proposed in Chapter 3.

4.4.4 Measurement Design Considerations

Several design principles guided measurement decisions across constructs. First, items were worded to minimize leading language and avoid presupposing causality. Second, response scales were standardized where possible to facilitate comparison and latent-variable modelling. Third, construct breadth was balanced against respondent fatigue, particularly in Stage D, to ensure data quality without sacrificing conceptual coverage.

Where appropriate, constructs were initially treated as observed composites during diagnostic analysis *and preliminary large-sample checks*, with the intention of formalizing measurement quality through latent-variable modelling in the SEM stage. **This sequencing reflects the study's analytical logic: establish directionality and stability first, then evaluate reliability and validity within a unified structural framework.**

4.4.5 Alignment with Analytical Strategy

The final instrument is directly aligned with the analytical strategy outlined in Sections 4.5 and 4.6 and with the structural framework tested in subsequent chapters. By grounding measurement in qualitative insights, validating sequencing diagnostically, and preserving construct continuity across stages, the instrument supports rigorous examination of the

MarTech *Engagement* → Brand Propensity → Branded Purchase Realization (BPR) mechanism without conflating cognition, validation, and execution.

4.5 Data Quality, Screening, and Preparation

Given the staged nature of the research design and the reliance on large-scale survey data in Stage D, careful attention was paid to data quality, response integrity, and preparation prior to analysis. These procedures were undertaken to ensure that observed relationships reflect substantive consumer cognition and decision behavior across the journey, rather than artefacts of response noise, inattentiveness, or incomplete participation.

4.5.1 Initial Data Capture and Inclusion Criteria

All responses were collected using a structured survey instrument with mandatory consent and completion requirements. Initial screening ensured that respondents had provided informed consent and had engaged meaningfully with the questionnaire. Responses that were incomplete, terminated prematurely, or failed to meet basic inclusion criteria were excluded prior to further analysis.

This initial filtering ensured that retained responses reflected substantive engagement with the decision processes under investigation, consistent with the study's emphasis on journey-level cognition rather than superficial response patterns.

4.5.2 Completion Behavior and Engagement Checks

Completion time was examined as an indicator of respondent engagement. Rather than relying solely on rigid time cut-offs, completion duration was evaluated in conjunction with response patterns to avoid excluding fast but cognitively engaged respondents.

Responses exhibiting implausibly short completion times combined with uniform or repetitive answer patterns across unrelated items were flagged and reviewed. Cases suggesting inattentive or mechanical responding were excluded from the analytic sample. This approach balances rigor with inclusivity, recognizing heterogeneity in reading speed, familiarity, and digital comfort among respondents.

4.5.3 Internal Consistency and Logical Validation

Internal consistency checks were applied across conceptually related items to identify contradictory or illogical response patterns. For example, responses indicating high decisional

confidence were examined for coherence with reported purchase outcomes and consultation behavior.

Cases displaying persistent logical inconsistencies across core constructs—rather than isolated anomalies—were excluded. These checks were applied conservatively to preserve valid heterogeneity while ensuring construct integrity.

4.5.4 Handling of Missing Data

Missing data were examined at both the item and respondent levels. Respondents exhibiting excessive missingness across core constructs were excluded from analysis. For retained cases, sporadic missing values were addressed using estimation approaches appropriate to the analytical method employed.

No ad hoc imputation was performed that would alter construct meaning or inflate observed relationships. This approach ensures that conclusions drawn from the analysis reflect observed consumer responses rather than imputed assumptions.

4.5.5 Final Analytic Sample

Following application of consent verification, completion checks, engagement screening, consistency validation, and missing-data review, a final analytic sample was derived for quantitative analysis. While the total number of collected responses exceeded 600, only cases meeting all quality thresholds were retained.

The resulting dataset exhibits adequate variability across constructs, balanced response distributions, and sufficient statistical power to support both diagnostic analysis and confirmatory Structural Equation Modelling. Descriptive characteristics of the final analytic sample are reported in the Results chapter.

4.5.6 Alignment with Analytical Objectives

The data preparation procedures were designed to support the study's analytical objectives without imposing undue restrictions on the data. By prioritizing response quality, logical coherence, and construct integrity, these procedures ensure that observed relationships reflect consumer decision-making across the journey, rather than methodological artefacts.

4.6 Analytical Strategy and Estimation Approach

The analytical strategy adopted in this study mirrors its sequential research design. Rather than relying on a single estimation technique, the analysis proceeds through layered stages, with each method serving a distinct diagnostic or confirmatory purpose. This approach ensures that complex structural modelling is applied only after construct behavior and directional logic have been established.

4.6.1 Diagnostic Analysis and Directional Validation

Initial quantitative analyses were conducted using regression-based methods to examine construct behavior and directional plausibility prior to structural modelling. These analyses served as diagnostic checks, assessing whether:

- Early-stage information engagement (MarTech *Engagement*) plausibly precedes Brand Propensity, and
- Brand Propensity plausibly precedes Branded Purchase Realization (BPR).

These analyses were not intended as definitive hypothesis tests. Instead, they were used to examine scale behavior, variance structure, and potential anomalies, thereby informing construct stability and sequencing prior to confirmatory modelling. Evidence from this stage supported the proposed ordering of constructs derived from the qualitative work and *the diagnostic field phase*.

4.6.2 Structural Equation Modelling Framework

Following diagnostic validation, the study employs Structural Equation Modelling (SEM) as the primary framework for confirmatory testing. SEM is particularly suited to the study's objectives, as it allows simultaneous estimation of latent constructs, mediated relationships, and conditional effects within a unified analytical structure.

The core structural model specifies:

- MarTech Engagement as the exogenous construct,
- Brand Propensity as the mediating construct, and
- Branded Purchase Realization (BPR) as the endogenous outcome variable.

This specification reflects the consumer journey articulated in earlier chapters, in which early-stage digital cognition is carried forward and conditionally translated into realized outcomes. It directly operationalizes the core research questions and hypotheses:

- H1–H3 / RQ1–RQ3: the mediated pathway MarTech *Engagement* → Brand Propensity → BPR.

SEM enables joint evaluation of measurement quality and structural relationships, allowing assessment of direct, indirect, and total effects while accounting for measurement error. This capability is essential for testing a mechanism in which an internal confidence state (Brand Propensity) mediates the relationship between information engagement and realized purchase behavior.

4.6.3 Mediation and Conditional Effects

Mediation is examined by estimating the indirect effect of MarTech engagement on Branded Purchase Realization (BPR) through Brand Propensity. The significance and magnitude of this indirect pathway provide the primary empirical test of the study's central proposition—that early-stage digital cognition contributes to realized purchase outcomes through the formation of an internal confidence state.

In addition to mediation, the analytical strategy examines conditional variation in the strength of key relationships, consistent with the moderating propositions articulated in the conceptual framework. Specifically:

- Demographic attributes (age, education, and income) are used to assess whether the MarTech Engagement → Brand Propensity relationship varies systematically across consumer profiles. This represents upstream moderation within the cognition–confidence stage of the journey (corresponding to RQ4).
- The Influencer Index—capturing the degree of reliance on engineers, masons, and dealers for validation—is used to assess whether the Brand Propensity → Branded Purchase Realization (BPR) relationship is conditioned by execution-stage validation context. This represents downstream conditionality within the realization stage of the journey (corresponding to RQ5).

Moderation is examined using interaction specifications or multi-group analysis, depending on the distributional properties of the data and model identification requirements. These approaches allow the study to evaluate whether the strength of the mediated pathway varies

systematically across consumer segments and validation contexts while preserving interpretability of the structural mechanism.

4.6.4 Model Evaluation and Interpretation Logic

Model evaluation follows established SEM best practices, including assessment of:

- Overall model fit (using multiple fit indices considered jointly),
- Path significance and effect sizes, and
- Construct reliability and validity (e.g., internal consistency, convergent and discriminant validity).

Importantly, the analytical focus remains on mechanism validation rather than model optimization. The study does not engage in extensive post hoc modification to artificially improve fit. Any model adjustments are guided strictly by theoretical plausibility and are reported transparently.

Interpretation of results is anchored in the consumer journey logic developed in Chapters 2 and 3: digital cognition initiates confidence formation, contextual factors condition its strength and expression, and institutional and financial constraints govern realization.

4.6.5 Multi-Group Analysis (MGA) as a Heterogeneity Extension

Following estimation of the pooled structural model, the study further examines whether key structural relationships vary across substantively meaningful consumer segments. This step is particularly important because pooled estimates may conceal offsetting subgroup effects when the underlying population is heterogeneous. In the present context, heterogeneity is theoretically plausible because the consumer journey is conditioned by differences in age, education, income, and reliance on validators.

Accordingly, Multi-Group Analysis (MGA) is employed as an analytical extension to examine whether the strength and significance of selected paths differ across segments. MGA is not introduced as an exploratory afterthought, but as a theoretically motivated method for uncovering suppressed or averaged-out effects that may remain obscured in pooled SEM estimates. This is especially relevant for the second leg of the mechanism, where realization-stage conditions may differ materially across consumer types.

The logic of MGA is therefore fully consistent with the overall methodological design of the thesis. Just as earlier stages moved from phenomenon observation to diagnostic validation before confirmatory testing, the shift from pooled SEM to MGA represents a further refinement in analytical resolution—allowing the study to identify where the proposed mechanism holds uniformly and where it operates differently across consumer groups. Detailed subgroup results are presented and interpreted in the Results chapter.

4.7 Summary of Research Design and Methodology

This chapter presented the research design and methodological approach adopted to examine how early-stage information engagement shapes Branded Purchase Realization (BPR) outcomes in the steel and building materials category.

Employing a sequential mixed-methods design, the study progressed from phenomenon identification and qualitative grounding to diagnostic quantitative validation and confirmatory structural modelling. Each stage was aligned with a distinct phase of the consumer journey, ensuring that constructs and sequencing emerged from observed behavior before being subjected to large-scale empirical testing.

The chapter detailed the research context, unit of analysis, sampling strategy, and instrument development process, emphasizing the translation of qualitative insights into analytically tractable constructs. Data quality and preparation procedures were outlined to establish the integrity of the quantitative dataset, followed by a description of the analytical strategy used to validate the proposed MarTech *Engagement* → Brand Propensity → BPR mechanism and its boundary conditions.

By integrating phenomenon grounding, qualitative articulation, diagnostic validation, confirmatory modelling, *and heterogeneity assessment* within a coherent framework, this chapter establishes a robust methodological foundation for the analyses that follow. The next chapter presents the empirical results arising from this design, progressing from descriptive and diagnostic findings to full structural model estimation and hypothesis testing.

Chapter 5: Empirical Grounding, Construct Development, and Diagnostic Validation

5.1 Chapter Overview

While Chapter 4 established the overall research design and methodological logic, the present chapter documents how the focal constructs were empirically grounded, translated into measurable variables, and diagnostically validated prior to confirmatory structural modelling. The chapter therefore serves as the bridge between methodological design and formal model estimation. It demonstrates how field-based qualitative insight was progressively transformed into analytically tractable constructs and how early quantitative analysis was used to verify sequencing, construct behavior, and directional plausibility before large-scale SEM testing.

5.2 Qualitative Exploration and Construct Identification

The qualitative phase constituted the foundational stage of the research and was designed to closely examine the lived decision processes of Individual House Builders (IHBs) within the building materials category. Given the exploratory nature of the observed phenomenon and the absence of well-established process models for digitally informed decision-making in high-involvement, physically mediated categories, the study adopted an exhaustive qualitative approach rather than a narrowly scoped exploratory design.

5.2.1 Purpose of the Qualitative Phase

The objective of the qualitative phase was threefold:

1. **To document journey narratives**
   To understand how consumers naturally described their construction decision journeys, including how information was gathered, evaluated, and internalized over time.

2. **To surface decision language and cues**
   To uncover the language, cues, and heuristics through which consumers articulated confidence, uncertainty, and validation, with particular attention to expressions of "being sure," "having clarity," or "needing confirmation."

3. **To identify disturbance points**
   To identify moments where planned decisions were reinforced, delayed, or altered due to situational factors such as interpersonal advice, product availability, or financial considerations.

Importantly, this phase was not intended to generate hypotheses in a conventional deductive sense. Instead, it served to surface process regularities and decision structures that could inform construct development and subsequent quantitative design.

5.2.2 Data Collection Approach

Qualitative data were collected through in-depth, semi-structured interviews conducted by the researcher across multiple construction sites and market contexts. Interviews were conversational in nature and followed a flexible guide rather than a fixed questionnaire, allowing respondents to narrate their construction journeys in their own words. Probing questions were introduced iteratively to clarify decision points, information sources, and moments of reassurance or doubt.

Participants primarily included Individual House Builders as the main decision-makers. In addition, the researcher's sustained field engagement involved repeated interactions with dealers, masons, and engineers during site visits and market interactions. Formal qualitative analysis was conducted on consumer interview transcripts and associated field notes, which constituted the primary dataset for construct identification. Interactions with ecosystem actors informed the researcher's contextual understanding of validation dynamics but were not treated as a standalone qualitative dataset or subjected to formal coding analysis.

The qualitative phase was intentionally exhaustive rather than statistically representative. Interviews continued until recurring themes, decision patterns, and interpretive frames began to stabilize, indicating conceptual saturation. Field notes were maintained alongside interview transcripts to capture contextual observations, non-verbal cues, and situational details that could not be fully reflected in verbatim responses.

5.2.3 Analytical Procedure

Qualitative analysis followed an iterative, inductive process. Interview transcripts and field notes were reviewed repeatedly to identify recurring decision elements, temporal sequences, and validation mechanisms. Rather than applying pre-existing coding schemes, the analysis emphasized in vivo expressions and naturally occurring consumer terminology, particularly around notions of confidence, reassurance, and decision readiness.

Through successive rounds of review, decision elements were grouped into higher-order categories reflecting:

- Early-stage information engagement
- Internal confidence formation
- Consultation and validation behaviors
- Purchase realization under situational constraints

These categories were refined through constant comparison across interviews, allowing the researcher to distinguish between formative influences (those shaping internal preference) and confirmatory influences (those validating or disturbing an already formed preference).

5.2.4 Emergent Constructs and Process Insights

The qualitative phase yielded several core insights that guided subsequent stages of the research.

First, digital engagement emerged as an early-stage cognitive input, with consumers frequently reporting the use of online sources to shortlist brands, understand quality differences, and prepare themselves for downstream interactions. However, the depth and nature of this engagement varied substantially, ranging from diagnostic exploration to superficial exposure.

Second, respondents consistently described an internal state of readiness or assurance prior to interacting with offline channel actors. This state—later operationalized as Brand Propensity—was characterized by clarity of choice, confidence in one's reasoning, and the ability to articulate brand preference when questioned.

Third, offline actors such as dealers, masons, and engineers were rarely described as primary originators of brand choice. Instead, their role was primarily confirmatory, providing reassurance, practical validation, or, in some cases, introducing late-stage disturbances due to availability, negotiation, or execution-related concerns.

Finally, financial considerations were observed to operate predominantly at the realization stage. Rather than reshaping underlying brand evaluations, budgetary constraints or offers occasionally accelerated, delayed, or disrupted purchase realization without fundamentally altering prior confidence.

5.2.5 Implications for Quantitative Design

Insights from the qualitative phase directly informed the structure of the quantitative stages. The distinction between early-stage digital cognition, internal confidence formation, and late-

stage realization guided the sequential modelling strategy adopted in *the diagnostic quantitative stage* and Stage D. Survey items were constructed to reflect the language and decision cues observed during interviews, thereby enhancing ecological validity.

In particular, the qualitative findings motivated:

- The separation of diagnostic versus superficial digital engagement,
- The central positioning of Brand Propensity as a mediating construct,
- The treatment of validator effects as institutional governance of execution rather than preference formation, and
- The inclusion of finance-related variables as late-stage disturbances rather than antecedents.

These design choices ensured that subsequent quantitative analysis was grounded in observed consumer behavior rather than imposed theoretical assumptions.

5.3 Instrument Development and Survey Design

The development of the survey instrument followed a progressive, field-grounded, and theoretically informed process. Rather than relying exclusively on pre-existing scales, the instrument was constructed to reflect the decision language, cognitive cues, and validation mechanisms observed during the qualitative phase, while maintaining alignment with the conceptual framework articulated in Chapter 3.

The guiding principle in instrument design was process fidelity—ensuring that survey items captured how consumers experienced and articulated their construction decision journeys, rather than imposing abstract or externally derived terminology.

5.3.1 Translation of Qualitative Insights into Survey Items

Insights from the qualitative exploration were first synthesized into a set of salient decision elements. These included early-stage digital information engagement, internal confidence formation, consultation and validation behaviors, and purchase realization under situational constraints. Each element was then translated into structured survey items using language that closely mirrored respondents' own expressions, thereby enhancing interpretability and ecological validity.

Where possible, items were framed behaviorally (e.g., frequency, sequence, clarity) rather than purely attitudinally, to reduce retrospective rationalization. For example, digital engagement was captured through measures of usage frequency, breadth, and perceived independence, while confidence was operationalized through clarity of choice and explainability prior to offline consultation.

5.3.2 Instrument Structure and Sectioning

The final instrument was organized into logically sequenced sections reflecting the temporal progression of the consumer journey:

1. **Context and Demographics**
   Measured respondent characteristics relevant for descriptive control and segmentation, including age, education, occupation, and construction context.

2. **Digital Information Engagement**
   Measured the extent, depth, and timing of digital information use during the construction journey, allowing differentiation between diagnostic engagement and superficial exposure.

3. **Brand Confidence and Preference Formation**
   Assessed internal states of clarity, certainty, and preparedness prior to interaction with offline validators. These items formed the basis for the Brand Propensity construct.

4. **Validation and Consultation**
   Captured consumer-perceived influence of various offline and online validators, including dealers, masons, engineers, peers, and digital sources. These were measured as ranked or rated influences rather than binary indicators, reflecting their primarily confirmatory role.

5. **Purchase Realization and Disturbances**
   Recorded final purchase outcomes, including whether the initially intended brand was purchased, as well as late-stage influences such as financial considerations that may have disrupted or facilitated realization.

This structure ensured that respondents progressed through the instrument in a manner consistent with their lived decision sequence, reducing cognitive load and enhancing response coherence.

5.3.3 Iterative Refinement and Diagnostic Field Administration

An initial version of the instrument was administered during *the diagnostic field phase* through researcher-assisted interviews with Individual House Builders. This stage served multiple methodological purposes. Specifically, it enabled:

- Assessment of item clarity and comprehension in real time,
- Observation of response variance and identification of items that were redundant, ambiguous, or insufficiently discriminating, and
- Verification that the intended sequencing of constructs was preserved in respondents' interpretations.

Feedback from this stage informed minor rewording, scale balancing, and ordering adjustments. Importantly, *this phase* was not treated as a "pilot" in the narrow sense, but as a *diagnostic checkpoint to evaluate whether the instrument could support meaningful quantitative analysis of the proposed process.*

5.3.4 Construct Operationalization for Quantitative Analysis

For quantitative analysis, selected survey items were aggregated into observed composite measures consistent with the diagnostic intent of *the field-validation stage*. Digital engagement measures were combined to distinguish between diagnostic usage and superficial exposure, while confidence-related items were aggregated to form the Brand Propensity index. Branded Purchase Realization (BPR) was operationalized as a verified binary outcome, reflecting whether the intended brand was ultimately purchased.

Influence ratings and finance-related items were retained as separate observed variables and introduced only at the realization stage, reflecting their role as contextual validators or disturbances rather than formative drivers of preference.

This operationalization strategy balanced parsimony with interpretability, ensuring that constructs remained closely tied to observed behaviors while remaining analytically tractable for regression-based analysis.

5.3.5 Readiness for Large-Scale Deployment

Following refinements informed by *the diagnostic field stage*, the instrument was finalized for large-scale administration in Stage D. The stability and interpretability observed during

diagnostic analysis provided confidence that the instrument could support formal measurement validation and structural modelling. At the same time, the staged design ensured that confirmatory analysis was grounded in empirically observed decision processes rather than imposed a priori assumptions.

5.4 Quantitative Stage ABC: Diagnostic Analytical Strategy

Stage ABC constituted the first quantitative examination of the proposed decision mechanism and was designed as a diagnostic and sequencing-focused analytical stage. Positioned between qualitative exploration and large-scale confirmatory modelling, this stage was not intended to test a fully specified theoretical model, but rather to verify whether the directional ordering and construct behavior suggested by qualitative insights were empirically observable in structured consumer data.

5.4.1 Purpose of Stage ABC

The primary objective of Stage ABC was to assess whether digitally mediated information engagement precedes internal brand confidence formation, and whether such confidence, in turn, governs purchase realization. Specifically, Stage ABC sought to examine three diagnostic questions:

1. Whether digital cognition plays a formative role in shaping an internal state of brand confidence.
2. Whether this internal confidence state precedes and explains final purchase realization.
3. Whether the apparent influence of external validators and situational factors attenuates once internal confidence is accounted for.

Accordingly, the analytical strategy emphasized transparency, interpretability, and construct stability rather than model complexity or statistical generalization.

5.4.2 Sample and Data Characteristics

Validator-facing inputs were used solely to contextualize execution-stage disturbances and were not treated as independent analytical observations. Stage ABC analysis was therefore conducted using a tightly controlled sample of Individual House Builders who were fully interviewed by the researcher. The sample comprised approximately seventy-five deeply verified respondents drawn from the *broader diagnostic* pool, each of whom had completed or

was in the process of completing a residential construction project and had made a recent steel purchase decision.

Data collection was conducted in person, with the researcher administering the instrument and **verifying responses on-site wherever possible**. This approach ensured high data integrity, eliminated item non-response, and enabled clarification of responses in real time. As a result, the Stage ABC dataset contained no missing values and reflected a high degree of internal consistency.

Given the purpose of Stage ABC, the sample was not intended to be statistically representative of the broader population. Instead, it was designed to provide high-quality, process-consistent observations suitable for diagnostic analysis.

5.4.3 Variable Construction and Measurement

For the purposes of Stage ABC analysis, key constructs were operationalized as observed composite measures derived from the survey instrument.

MarTech Usage (Digital Cognition)

Digital engagement was operationalized using a set of items capturing frequency of use, depth of engagement, timing of information search, and perceived independence in digital decision-making. These items were combined to distinguish between diagnostic digital cognition and more superficial or skimming-based exposure. The resulting composite reflected early-stage cognitive engagement rather than downstream persuasion.

Brand Propensity

Brand Propensity was operationalized as an internal confidence state, reflecting clarity of brand choice, stability of preference, and the ability to articulate reasons for selection prior to interacting with offline validators. Multiple confidence-related items were aggregated into a single index to capture this latent resolution state in an observed, interpretable form.

Branded Purchase Realization (BPR)

Purchase realization was measured as a binary outcome indicating whether the consumer ultimately purchased the brand that had been initially intended. This outcome was verified during field interviews, reducing reliance on retrospective self-report.

Validator Influence and Financial Considerations

Consumer-rated influence of offline and online validators (such as dealers, masons, engineers, peers, and digital sources) was retained as observed variables. In addition, finance-related influence was captured using a Likert-scale item reflecting whether budgetary or financial considerations influenced the purchase decision. These variables were introduced only at the realization stage, consistent with their role as contextual validators or late-stage disturbances rather than preference-forming mechanisms.

5.4.4 Model Specifications

Stage ABC employed regression-based analytical techniques to examine the sequencing and attenuation of effects across stages of the decision process.

- First, ordinary least squares (OLS) regression was used to examine the relationship between digital cognition and Brand Propensity, controlling for relevant demographic characteristics. This specification assessed whether early-stage digital engagement was associated with higher internal confidence.
- Second, logistic regression was employed to examine the relationship between Brand Propensity and purchase realization. This specification evaluated whether internal confidence preceded and explained final purchase outcomes.
- Third, additional diagnostic models introduced validator influence ratings and finance-related variables alongside Brand Propensity to examine whether their apparent effects on purchase realization attenuated once internal confidence was accounted for.

These specifications were selected to preserve interpretability of stage ordering and to examine attenuation patterns consistent with the proposed journey mechanism.

Where theoretically motivated, limited interaction terms were introduced to examine whether demographic characteristics moderated the relationship between digital engagement and Brand Propensity. No higher-order interactions or complex specifications were employed, in keeping with the diagnostic intent of Stage ABC.

5.4.5 Analytical Rationale

OLS and logistic regression were selected for Stage ABC due to their transparency, interpretability, and suitability for observed composite measures. At this stage, constructs were treated as empirically grounded indices rather than formally validated latent variables. This

approach allowed direct inspection of effect directions, relative magnitudes, and attenuation patterns without imposing structural constraints prematurely.

Importantly, Stage ABC was not intended to establish causal proof or population-level inference. Instead, it served to confirm that the proposed cognition–confidence–realization sequence was empirically viable and sufficiently stable to warrant formal measurement validation and structural modelling in the subsequent stage.

5.4.6 Transition to Confirmatory Analysis

Findings from Stage ABC provided the necessary empirical confidence to proceed to large-scale confirmatory analysis. The observed stability of Brand Propensity as an intermediary construct, the attenuation of alternative explanations once confidence was accounted for, and the role of validators and financial considerations as late-stage influences collectively motivated the adoption of Structural Equation Modelling (SEM) in Stage D.

Accordingly, Stage D was designed to formally validate measurement properties, test mediation and moderation relationships, and assess the robustness of the proposed mechanism at scale, building directly on the diagnostic insights generated in Stage ABC.

Following the diagnostic insights established in Stage ABC, the study proceeded to a large-scale confirmatory analysis using Structural Equation Modelling (SEM). The purpose of Stage D was to formally validate the measurement properties of the key constructs and to test the structural relationships implied by the cognition–confidence–realization mechanism identified in earlier stages.

Importantly, SEM was introduced only after Stage ABC confirmed the directional sequencing and interpretability of the proposed constructs. This ensured that confirmatory modelling was grounded in observed consumer behavior rather than imposed a priori.

5.5.1 Purpose of Stage D

Stage D was designed to address three objectives that could not be adequately examined using regression-based methods alone:

1. Validate the measurement structure of multi-item constructs derived from the survey instrument.
2. Formally test the mediating role of Brand Propensity in the relationship between digital cognition (MarTech Usage) and Branded Purchase Realization (BPR).

3. Examine contextual moderation, assessing whether selected demographic and validation-related factors condition key structural paths.

Thus, while Stage ABC focused on diagnostic sequencing, Stage D emphasized measurement validity, mediation, and structural robustness at scale, directly addressing H1–H5 and *RQ1–RQ5*.

5.5.2 Sample and Data Characteristics

The Stage D analysis was conducted using a large-scale consumer dataset collected through structured survey administration. Respondents were Individual House Builders who had recently completed or were in the process of completing residential construction and had made steel purchase decisions.

Data quality checks were conducted prior to analysis, including screening for incomplete responses, inconsistent answering patterns, and extreme response speeds. Only valid and complete responses were retained for SEM estimation, ensuring robustness of the results. The final sample size exceeded conventional guidelines for SEM, providing adequate power for both measurement and structural model estimation.

5.5.3 Measurement Model Specification

The measurement model specified latent constructs corresponding to digital cognition (MarTech Usage) and Brand Propensity, with observed survey items serving as indicators. Indicator selection was guided by:

- Qualitative grounding from the interview phase, and
- Diagnostic performance in Stage ABC.

Brand Propensity was modelled as a latent construct reflecting internal confidence and preference clarity. Digital cognition was specified to capture diagnostic engagement with digital information sources rather than mere exposure.

Measurement validity was assessed using standard SEM criteria, including:

- Indicator loadings,
- Internal consistency and composite reliability, and
- Convergent and discriminant validity.

Items exhibiting weak or inconsistent loadings were evaluated carefully, ensuring that retained indicators reflected theoretically coherent dimensions.

5.5.4 Structural Model Specification

The structural model tested the hypothesized relationships between digital cognition, Brand Propensity, and Branded Purchase Realization (BPR). Specifically, the model examined whether the effect of digital cognition on BPR operated indirectly through Brand Propensity, consistent with the mechanism suggested by earlier stages (H1–H3 / RQ1–RQ3).

In addition, selected demographic and contextual variables were introduced as moderators or controls where theoretically motivated:

- Demographic characteristics (age, education, income) were used to test upstream moderation of the MarTech Usage → Brand Propensity path *(corresponding to RQ4)*.
- Influencer-related variables and finance-related considerations were treated as contextual factors affecting realization, consistent with their role as execution-stage validators or disturbances rather than primary drivers of preference formation.

5.5.5 Estimation and Model Evaluation

SEM estimation was conducted using established procedures appropriate for the scale and distributional properties of the data. Model evaluation considered:

- Overall model fit (using multiple fit indices),
- Significance and magnitude of path coefficients, and
- Reliability and validity of latent constructs.

Rather than optimizing fit mechanically, emphasis was placed on the interpretability and stability of parameter estimates across plausible alternative specifications. This approach ensured that the confirmatory analysis remained aligned with the substantive mechanism identified through qualitative exploration and diagnostic analysis.

5.5.6 Integration with Earlier Stages

Stage D findings were interpreted in conjunction with insights from the qualitative phase and Stage ABC. Convergences and divergences across stages were examined to refine theoretical interpretation and to identify boundary conditions of the proposed mechanism.

By positioning SEM as a confirmatory extension rather than a standalone exercise, the study maintained methodological continuity across stages and ensured coherence between exploratory insight and formal testing.

5.5.7 Extension to Multi-Group Analysis (MGA)

Following pooled SEM estimation, the analysis was extended through Multi-Group Analysis (MGA) to examine whether key relationships varied across theoretically relevant consumer segments. This extension was motivated by the possibility that pooled structural coefficients may conceal subgroup-specific effects, particularly in the realization stage where demographic characteristics and validator dependence may shape execution differently across consumer profiles.

MGA was therefore used not merely as a robustness check, but as an interpretive extension to assess whether heterogeneity in the sample suppressed or diluted effects in the pooled model. This was especially important where path signs or magnitudes suggested possible offsetting subgroup behavior. The use of MGA thus aligns closely with the thesis's broader analytical philosophy: begin with pooled directional validation, establish formal structural relationships, and then refine interpretation by examining segment-level variation where theoretically justified.

5.6 Summary

Stage D provided formal empirical support for the proposed cognition–confidence–realization mechanism and clarified the roles of key constructs within a unified structural framework. Together with earlier stages, the confirmatory analysis strengthened confidence in the robustness and generalizability of the study's core findings and prepared the ground for the detailed presentation of empirical results in the next chapter.

Chapter 6: Introduction to Results

This chapter presents the empirical results of the study. The analyses are motivated by a recurring phenomenon observed during the exploratory phase: individual house builders increasingly arrive at the point of purchase with a pre-formed brand inclination. This inclination is operationalized here as Brand Propensity, defined as the consumer's pre-execution confidence that a particular brand is appropriate prior to market execution.

Across early field engagements, respondents articulated sentiments such as "I had already decided the brand before coming to the shop" and "I checked information online before visiting the dealer." These narratives suggest that pre-formed inclinations are often reinforced—rather than initiated—at the point of transaction through interaction with legitimate ecosystem actors, most notably engineers, masons, and dealers. In this study, these actors are conceptualized as Validators, reflecting their role in confirming, reassuring, scrutinizing, and legitimizing an existing inclination rather than functioning as primary originators of brand choice.

Although Validators are conceptually downstream of early digital cognition in the consumer journey, the analyses reported in this chapter allow for the possibility that professional consultation conditions how digitally acquired information translates into internal confidence. *Accordingly, validator consulting is examined both as (a) a late-stage legitimizing presence operating near execution and (b) a conditioning mechanism during confidence formation, consistent with the staged logic of the study*.

Informal peer conversations (family and friends) were occasionally referenced during exploratory discussions; however, these were not explicitly recorded or operationalized in the quantitative instrument and are therefore not examined empirically in this chapter.

Building on this phenomenon, the qualitative phase was used to map decision stages, identify salient constructs, and refine the language through which consumers described their construction journeys. These insights informed the design and sequencing of the quantitative instrument. However, qualitative insights are not used as evidentiary support for the results reported here.

Consistent with the research design outlined in Chapter 4, the analyses reported in this chapter proceed sequentially from diagnostic evidence toward confirmatory structural modelling. This staged reporting structure reflects the study's methodological progression from phenomenon

observation and exploratory grounding to quantitative validation and large-sample structural testing.

The analyses presented in this chapter focus exclusively on quantitative empirical evidence. Results are reported sequentially to reflect the staged analytical design of the study.

Two principal quantitative phases are reported:

• **Stage ABC (Diagnostic Quantitative Results):** uses regression-based diagnostic analyses to examine directional associations among MarTech engagement, Brand Propensity, and Branded Purchase Realization (BPR)—defined as whether the consumer ultimately purchased the same brand they had intended prior to entering the point of sale (1 = intended brand purchased, 0 = otherwise). For clarity, the phrase "brand purchase" is occasionally used in descriptive prose; however, BPR is the formally modelled execution outcome throughout this chapter. Validator influence and realization-side disturbances are treated as conditioning variables. These analyses are diagnostic and are not positioned as causal hypothesis tests.

• **Stage D (SEM at Scale):** uses Structural Equation Modelling (SEM) to evaluate measurement properties and to formally test mediated and moderated relationships at scale.

Within Stage D, pooled structural models are first estimated to evaluate the baseline formation–execution pathway linking MarTech engagement, Brand Propensity, and Branded Purchase Realization. Subsequent model extensions introduce validator conditioning, switching dynamics, and budget-related feasibility constraints to examine how execution-stage outcomes are shaped under more realistic decision conditions.

Interpretation and theoretical integration of the findings are intentionally reserved for the Discussion chapter to maintain a clear distinction between empirical reporting and theoretical interpretation.

6.1 Structure of Results Presentation

Consistent with the sequential mixed-methods design, results are organized as follows:

• Section 6.2 presents Stage ABC diagnostic findings, including descriptive statistics and regression-based analyses examining relationships among MarTech usage, Brand Propensity, and Branded Purchase Realization (BPR). Validator consulting and realization-side disturbances are introduced as conditioning mechanisms within this diagnostic phase.

• Section 6.3 documents the transition from Stage ABC to Stage D and outlines the rationale for adopting Structural Equation Modelling (SEM) as the primary analytical framework for evaluating the full conceptual model at scale.

• Section 6.4 presents the Stage D sample profile and reports the assessment of the measurement model, including evaluation of indicator reliability and construct validity for the latent constructs used in the SEM framework.

• Section 6.5 reports the Stage D structural model results. *A sequence of progressively extended structural specifications (Models M1–M5) is estimated to examine the mediated formation–execution pathway linking MarTech engagement, Brand Propensity, and Branded Purchase Realization, while incorporating validator conditioning, execution-stage switching dynamics, and budget-related feasibility constraints.*

• Section 6.6 provides a consolidated summary of empirical findings across Stage ABC and Stage D, synthesizing the principal structural patterns observed across the model specifications.

• *Section 6.7 aligns the empirical findings with the research questions and hypotheses introduced in Chapter 3, clarifying the extent to which each proposed relationship receives support within the staged analytical framework.*

6.2 Stage ABC: Diagnostic Quantitative Results

This section reports the diagnostic quantitative results obtained during Stage ABC of the study. Consistent with the staged research design outlined in Chapter 4, Stage ABC serves as an exploratory quantitative phase intended to examine directional associations among key constructs prior to large-scale structural modelling. The analyses are designed to assess whether patterns observed in the qualitative phase—particularly the formation of pre-execution brand inclination through digitally mediated information engagement—are empirically plausible in observed data.

Importantly, the analyses reported in this section are diagnostic rather than confirmatory in nature. The objective is to establish construct coherence and directional consistency among MarTech engagement, Brand Propensity, and Branded Purchase Realization (BPR) before estimating the full structural model in Stage D. Accordingly, regression-based analyses are used to evaluate the plausibility of the proposed formation–execution sequence while recognizing the inferential limitations associated with the smaller Stage ABC sample.

6.2.1 Descriptive Statistics and Sample Profile

This subsection reports descriptive characteristics of the Stage ABC sample to establish demographic composition and the distributional properties of key study constructs prior to regression-based diagnostic analysis. The Stage ABC dataset comprises 75 individual house-building consumers, each corresponding to a completed or near-completed residential construction decision. *Although the sample size is modest, it provides an initial empirical window into the formation–execution dynamics identified during the exploratory phase and enables preliminary assessment of construct behavior before confirmatory modelling in Stage D.*

Age Profile

Age	Freq.	Percent	Cum.
<=35	7	9.33	9.33
36-40	17	22.67	32.00
41-45	10	13.33	45.33
46-50	16	21.33	66.67
>=50	25	33.33	100.00
Total	75	100.00	

Respondents are distributed across a broad range of age categories, ensuring representation across multiple life stages relevant to residential construction decision-making. Individuals in the 36–50-year age range constitute a substantial share of the sample, while respondents aged 50 years and above are also meaningfully represented, indicating experienced decision-makers. Respondents aged 35 years and below form a smaller share of the sample.

Educational Attainment *(one missing response).*

Education	Freq.	Percent	Cum.
Up to 12th / Diploma	12	16.22	16.22
Undergraduate	17	22.97	39.19
Postgraduate	26	35.14	74.32
Professional / Other Higher	19	25.68	100.00
Total	74	100.00	

Educational attainment varies across multiple levels (one response missing). Respondents with undergraduate education or higher form the majority of the sample, with a substantial proportion holding postgraduate or professional qualifications. The remaining respondents are distributed across diploma and higher secondary education categories, providing heterogeneity in formal educational exposure relevant to information evaluation and decision-making.

Occupational Profile

Occupation	Freq.	Percent	Cum.
Other (Farmers etc.)	22	29.33	29.33
Salaried	29	38.67	68.00
Self-employed/Business	24	32.00	100.00
Total	75	100.00	

The occupational profile reflects representation across salaried employment, self-employed/business roles, and other occupational categories, offering heterogeneity in employment context relevant to decision autonomy and engagement in residential construction decisions.

Income Profile *(income reported by 64 respondents).*

Income	Freq.	Percent	Cum.
Low income (≤₹1 lakh)	35	54.69	54.69
Middle income (₹1–2 lakh)	19	29.69	84.38
High income (≥₹3 lakh)	10	15.62	100.00
Total	64	100.00	

Household income levels exhibit dispersion across low-, middle-, and high-income categories (income reported by 64 respondents). Income information is unavailable for a subset of respondents due to non-disclosure.

Distributional Properties of Core Constructs

Variable	Obs	Mean	Std. Dev.	Min	Max
BP_index (Brand Propensity)	75	4.09	1.05	1	5
IV_Q25_X4 (Skimming / Low-Depth Digital Use)	75	2.52	1.29	1	5
IV_Q30_B2 (Diagnostic MarTech Quality)	75	2.6	1.17	1	5
IV_Q26_X5_Count_All (Total Information Sources)	75	2.63	1.42	1	6
IV_Q26_X5_Count_Digital (Digital-Only Sources)	75	1.55	1.44	0	4
DV_Q47_Sales_YesNo (Branded Purchase Realization)	75	0.75	0.44	0	1

Across the core constructs, Brand Propensity exhibits a relatively high mean value with substantial dispersion, indicating meaningful variation in internal confidence prior to purchase. MarTech indicators display variation capturing differences in both diagnostic quality and the breadth of digitally mediated information engagement. With respect to the outcome, most respondents ultimately realized their intended brand choice (BPR = 1), while a smaller proportion deviated at the execution stage.

Taken together, the Stage ABC sample demonstrates adequate dispersion across demographic characteristics, digitally mediated information engagement, internal confidence formation, and Branded Purchase Realization (BPR). No evidence of extreme skewness, floor effects, or degenerate distributions is observed, supporting suitability for subsequent regression-based diagnostic analysis.

These distributional properties provide a preliminary empirical foundation for examining directional relationships among the core constructs prior to confirmatory modelling in Stage D.

6.2.2 MarTech → Brand Propensity

This subsection examines whether digitally mediated information engagement (MarTech) is directionally associated with internal confidence formation (Brand Propensity), defined as the consumer's internal confidence that a particular brand is appropriate, formed prior to physical market execution. Consistent with the diagnostic objectives of Stage ABC, this relationship is evaluated using Ordinary Least Squares (OLS) regression to assess whether patterns of digital engagement plausibly align with confidence formation. The analysis is treated as a directional diagnostic assessment rather than a causal test.

Two distinct modes of MarTech engagement are included:

- Skimming / low-depth digital use: captures surface-level browsing behavior
- Diagnostic MarTech quality: captures deeper, evaluative digital engagement involving interpretation, comparison, and credibility assessment

Age, education, and occupation (mean-centered) are included as control variables to account for demographic heterogeneity in information processing.

Table 6.2.2 — OLS Regression Results: MarTech → Brand Propensity (Stage ABC)

Dependent variable: Brand Propensity (BP_index); N = 74

Predictor	Coef.	Std. Err.	t	p-value	95% CI
Skimming / Low-Depth Digital Use (iv_q25_x4_c)	-0.33	0.129	-2.56	0.013 **	[-0.588, -0.073]
Diagnostic MarTech Quality (iv_q30_b2_c)	0.494	0.131	3.78	<0.001 ***	[0.233, 0.756]
Age (centered) (age_cat_c)	0.008	0.111	0.07	0.944	[-0.214, 0.230]
Education (centered) (edu_c)	0.168	0.121	1.39	0.17	[-0.073, 0.409]
Occupation (centered) (occup_cat_c)	0.114	0.118	0.97	0.335	[-0.120, 0.349]
Constant	4.081	0.11	36.93	<0.001 ***	[3.860, 4.301]

Model fit: $R^2 = 0.240;\ F(5,68) = 4.31,\ p = 0.0018$

Notes: Predictors are mean-centered. *p < .10, **p < .05, ***p < .01.

Results and Interpretation

As shown in Table 6.2.2, diagnostic MarTech quality is positively and statistically significantly associated with Brand Propensity ($\beta = 0.494,\ p < 0.001$). This indicates that deeper, evaluative digital engagement is linked to stronger internal confidence in brand suitability prior to purchase execution. Consumers who engage more deliberately with digital brand information appear better able to form clearer, more resolved brand inclinations.

In contrast, skimming / low-depth digital use is negatively and significantly associated with Brand Propensity ($\beta = -0.330,\ p = 0.013$). This suggests that superficial digital browsing does not strengthen confidence and may instead introduce uncertainty or weaken conviction. Mere exposure without meaningful evaluation appears insufficient to support confidence formation.

The demographic control variables—age, education, and occupation—do not exhibit statistically significant associations with Brand Propensity in this specification, indicating that the observed confidence patterns are not primarily attributable to demographic differences within the Stage ABC sample.

Overall, the model explains a moderate proportion of variance in Brand Propensity (R^2 = 0.240), and the regression is statistically significant as a whole. Taken together, these findings provide diagnostic support for the study's sequencing logic:

- *The depth and quality of MarTech engagement—rather than mere digital exposure—are meaningfully associated with internal confidence formation prior to purchase execution.*
- There is empirical evidence for dimensional differentiation within MarTech (skimming vs diagnostic use).

While these results should be interpreted cautiously given the diagnostic nature of the Stage ABC sample, they provide early empirical support for the proposed formation-stage mechanism.

Taken together, the findings establish construct coherence and highlight the importance of diagnostic digital engagement, thereby providing an empirical basis for modelling the MarTech → Brand Propensity pathway more rigorously using latent-variable SEM in Stage D (corresponding to H1 / RQ1 at the confirmatory stage).

6.2.2a Education as a Conditioning Mechanism in Confidence Formation

Building on the baseline MarTech → Brand Propensity model, this subsection examines whether education conditions how digitally mediated information engagement translates into internal brand confidence. The motivation for this test is grounded in the study's cognitive framing: consumers with higher educational attainment may differ in their ability to interpret, filter, evaluate, and integrate digital information when forming confidence about brand suitability.

To evaluate this possibility, interaction terms between education and the two MarTech modes—skimming / low-depth digital use and diagnostic MarTech quality—are introduced into the OLS regression model. All predictors involved in interaction construction are mean-centered to facilitate interpretation and reduce multicollinearity. Age and occupation remain included as control variables.

Table 6.2.3 — OLS Regression Results: Education Interaction Effects on Brand Propensity (Stage ABC)

Dependent variable: Brand Propensity (BP_index); N = 74

Predictor	Coef.	Std. Err.	t	p-value	95% CI
Skimming / Low-Depth Digital Use (iv_q25_x4_c)	−0.291	0.128	−2.27	0.027 **	[−0.547, −0.035]
Diagnostic MarTech Quality (iv_q30_b2_c)	0.502	0.128	3.93	<0.001 ***	[0.247, 0.758]
Age (centered)	0.067	0.112	0.6	0.548	[−0.156, 0.290]
Education (centered)	0.213	0.12	1.78	0.080 *	[−0.026, 0.452]
Occupation (centered)	0.146	0.116	1.26	0.211	[−0.085, 0.378]
Diagnostic Quality × Education (diag_X_edu)	−0.138	0.143	−0.96	0.339	[−0.423, 0.148]
Skimming × Education (skim_X_edu)	0.361	0.156	2.31	0.024 **	[0.049, 0.673]
Constant	4.036	0.113	35.86	<0.001 ***	[3.812, 4.261]

Model fit: $R^2 = 0.298$; $F(7,66) = 3.99$ ($p = 0.0011$)

*p < .10, **p < .05, ***p < .01.

Results and Interpretation

The core directional patterns observed in the baseline model remain stable in the interaction specification:

- Diagnostic MarTech quality continues to exhibit a strong positive association with Brand Propensity, indicating that deeper, evaluative digital engagement strengthens internal brand confidence.
- Skimming / low-depth digital use remains negatively associated with Brand Propensity, reinforcing the conclusion that superficial digital browsing does not support confidence formation and may instead introduce uncertainty.

The interaction analysis identifies a statistically significant moderating effect of education on the relationship between skimming behavior and Brand Propensity. The positive Skimming × Education coefficient $(\beta = 0.361,\ p = 0.024)$indicates that higher educational attainment attenuates the negative association between superficial digital engagement and confidence formation. Substantively, more educated consumers appear better able to:

- Extract meaning from limited or fragmented digital content,
- Impose structure on unfiltered information, and
- Stabilize their interpretation even when digital engagement is low-depth.

As a result, the confidence-weakening effect of skimming is less pronounced at higher education levels.

By contrast, the interaction between education and diagnostic MarTech quality is not statistically significant. This implies that the confidence-building effect of deeper, evaluative digital engagement operates relatively consistently across education levels. High-quality digital processing functions as a broadly effective confidence-aligned mechanism, while education primarily conditions how consumers process weaker or noisier digital signals, rather than amplifying already diagnostic engagement.

The inclusion of interaction terms modestly increases explained variance in Brand Propensity (R^2 from 0.240 to 0.298), indicating improved explanatory power without altering the underlying directional logic.

Taken together, these findings indicate that:

- MarTech engagement influences Brand Propensity in differentiated ways (diagnostic vs skimming), and
- Individual capability (education) selectively moderates the translation of low-depth digital exposure into internal confidence.

The results reinforce the study's sequential logic and provide diagnostic support for modelling demographics as contextual filters (H4 / RQ4) and for formally testing moderated paths in Stage D within a latent-variable SEM framework.

These diagnostic interaction patterns further motivate the inclusion of demographic conditioning variables within the Stage D structural framework, where their moderating roles can be evaluated more systematically using latent-variable modelling and a substantially larger sample.

6.2.3 Brand Propensity → Branded Purchase Realization (Logit)

This subsection examines whether internal brand confidence (Brand Propensity) translates into realized purchase behavior. Branded Purchase Realization (BPR) refers to whether the brand

initially intended by the consumer was ultimately purchased at the point of transaction (DV_Q47_Sales_YesNo; 1 = intended brand purchased, 0 = otherwise).

Given the binary nature of the outcome, logistic regression is used to evaluate whether higher Brand Propensity is directionally associated with a greater likelihood of realizing the intended brand at purchase execution. Age, education, and occupation (mean-centered) are retained as controls to account for demographic heterogeneity.

To remain consistent with the study's staged logic, validator consulting is treated here as a downstream conditioning presence operating close to execution. Accordingly, the model includes (a) a validator consulting index and (b) an interaction term between Brand Propensity and validator consulting to assess whether validator engagement conditions the translation of internal confidence into Branded Purchase Realization.

Table 6.2.4 — Logistic Regression Results: Brand Propensity, Validator Consulting, and Branded Purchase Realization (Stage ABC)

Dependent variable: Branded Purchase Realization (DV_Q47_Sales_YesNo; 1 = intended brand purchased). Model: Logit; N = 74

Predictor	Coef.	Std. Err.	Z	p-value	95% CI
Brand Propensity (BP_index)	1.625	0.436	3.72	<0.001 ***	[0.770, 2.480]
Validator Consulting (equal-weight; infl_com_eq_c)	-2.303	1.384	-1.66	0.096 *	[-5.016, 0.411]
Brand Propensity × Validator Consulting (bp_X_infl_eq)	0.58	0.744	0.78	0.435	[-0.877, 2.038]
Age (centered) (age_cat_c)	1.013	0.4	2.53	0.011 **	[0.229, 1.796]
Education (centered) (edu_c)	-0.195	0.386	-0.5	0.614	[-0.952, 0.562]
Occupation (centered) (occup_cat_c)	0.012	0.366	0.03	0.973	[-0.705, 0.729]
Constant	-4.95	1.591	-3.11	0.002 **	[-8.069, -1.832]

Model fit:Log likelihood $= -26.540$; LR $\chi^2(6) = 31.23$, $p < 0.001$; Pseudo $R^2 = 0.370$

Notes: Predictors are mean-centered where applicable. infl_com_eq_c is the equal-weight validator index used for interaction testing.

Significance: * p < .10, ** p < .05, *** p < .01.

Results and Interpretation

As shown in Table 6.2.4, Brand Propensity is a strong and statistically significant predictor of Branded Purchase Realization ($\beta = 1.625, p < 0.001$). This indicates that higher internal confidence in the intended brand is associated with a substantially greater likelihood of executing that intended brand purchase at the point of transaction, supporting the conceptualization of Brand Propensity as a proximal, execution-relevant confidence state (diagnostically consistent with H2 / RQ2).

The validator consulting index enters with a negative coefficient and marginal statistical significance ($\beta = -2.303, p = 0.096$). This suggests that, in this diagnostic sample, higher reported reliance on validators is associated with a lower probability of realizing the initially intended brand, although this effect should be interpreted cautiously due to its borderline significance and the limited sample size.

However, the interaction between Brand Propensity and validator consulting is not statistically significant ($\beta = 0.580, p = 0.435$). Within the Stage ABC diagnostic sample, this implies that validator consulting does not reliably strengthen or weaken the translation of internal confidence into realized branded purchase behavior. In other words, conditional on Brand Propensity, variation in validator consulting does not systematically alter whether the intended brand is ultimately purchased.

Among control variables, age (centered) is positive and statistically significant ($\beta = 1.013, p = 0.011$), suggesting that older respondents in this sample are more likely to realize their intended brand. Education and occupation do not exhibit statistically significant associations in this specification.

Overall, the model demonstrates strong fit for a Stage ABC diagnostic logit specification (LR $\chi^2(6) = 31.23, p < 0.001$; Pseudo $R^2 = 0.370$).

Taken together, these findings:

- Reinforce the study's sequential logic: Brand Propensity operates as a meaningful confidence mechanism predicting execution consistency in BPR.
- Provide no clear evidence, at this diagnostic stage, that validator consulting systematically moderates the Brand Propensity → BPR link (H5 / RQ5), although validator reliance itself may be associated with more complex realization dynamics.

The absence of a significant interaction effect in Stage ABC motivates the Stage D SEM specification, in which validator consulting is evaluated:

1. Not only as a downstream execution-stage presence, but also
2. As a potential formation-stage conditioning mechanism within the MarTech Usage → Brand Propensity pathway,using a more powerful latent-variable framework and a larger, more heterogeneous sample.

From a diagnostic standpoint, the strong positive association between Brand Propensity and BPR is consistent with H2 / RQ2, reinforcing the role of Brand Propensity as a proximal execution-relevant confidence state. However, the absence of a significant Brand Propensity × Validator interaction suggests no clear moderation effect at this stage, offering no diagnostic support for H5 / RQ5 in the Stage ABC sample.

The Stage ABC results show that diagnostic MarTech engagement is associated with Brand Propensity (Section 6.2.2) and that Brand Propensity is strongly associated with Branded Purchase Realization (Section 6.2.3). While no formal indirect-effect estimation is conducted at this stage, this pattern is consistent with the mediation logic underlying H3 / RQ3 and justifies formal mediation testing using SEM in Stage D. Accordingly, Stage D advances the analysis by modelling these relationships simultaneously within a latent-variable framework and by examining whether execution-stage constraints alter the observed formation–execution sequence.

6.2.4 Triangulation with Influencer Evidence (Descriptive Validation)

To contextualize the Stage ABC consumer-level diagnostic findings, supplementary triangulation evidence from engineers, dealers, and masons is incorporated as a descriptive validation layer. This material is used to assess construct realism and to interpret field-level heterogeneity in influence dynamics, while preserving the consumer as the primary unit of quantitative inference. *These insights are not treated as independent empirical tests but rather as contextual observations supporting the plausibility of the constructs examined in the quantitative analysis.*

The triangulation evidence is directionally consistent with the Stage ABC pattern that brand inclination is typically formed upstream of dealer interaction. Across influencer interviews:

- Engineers were frequently described as technically credible but rarely as direct brand persuaders, aligning with the conceptualization of Validators as legitimizers rather than originators of brand choice.
- Dealers and masons were more often characterized as execution-stage facilitators, offering reassurance, logistical support, or practical guidance rather than actively reshaping pre-formed brand intent.

These descriptive insights also provide a field-level lens for understanding the weak or non-significant aggregate validator effects observed in Stage ABC regression models. Influence patterns vary substantially by role:

- Engineers contribute to diagnostic reassurance,
- Dealers operationalize digitally shaped preferences at the point of sale, and
- Masons provide on-site validation during execution.

When aggregated into a single validator index, these heterogeneous pathways may diffuse detectable moderation effects, producing statistically muted coefficients without implying an absence of role-specific behavioral mechanisms.

Triangulation evidence is also aligned with the distinction between deep, diagnostic digital engagement and superficial browsing behavior observed in Stage ABC. Influencers reported that consumers arriving with stronger digital preparation typically sought confirmation rather than persuasion, whereas consumers relying on low-depth or fragmented information were more prone to uncertainty and external consultation. This pattern is consistent with the quantitative finding that diagnostic MarTech quality strengthens Brand Propensity, while skimming behavior does not.

Taken together, the triangulation material functions as interpretive and construct-validating context rather than inferential evidence. In line with the staged research design, the formal testing of mediated and moderated pathways, measurement structure, and latent relationships is therefore reserved for Stage D, where Structural Equation Modelling (SEM) is employed to evaluate the full theoretical model at scale.

6.3 Transition from Stage ABC to Stage D: Rationale for SEM

Stage ABC provided diagnostic, regression-based evidence supporting the directional coherence of the study's proposed formation–execution sequence. The analyses indicated that

digitally mediated information engagement (MarTech) is systematically associated with Brand Propensity, and that Brand Propensity functions as a psychologically meaningful confidence state linked to execution-stage outcomes in the small-sample diagnostic setting. ***In other words, the Stage ABC diagnostics offered initial empirical support for the upstream role of digitally mediated cognition in shaping a stabilized brand confidence orientation prior to execution.*** At the same time, Stage ABC results suggested that downstream factors—such as validator involvement and execution-stage constraints—may shape whether confidence ultimately translates into realized purchase behavior. ***These findings were consistent with the broader formation–execution asymmetry proposed in the conceptual framework, wherein digital engagement contributes to confidence formation upstream while realization remains contingent on institutional and feasibility conditions downstream.***

However, Stage ABC:

• Treated constructs as observed composites,
• Did not explicitly model measurement error, and
• Evaluated relationships in a piecemeal rather than integrated manner.

The diagnostic regressions were not designed to estimate latent cognitive states, indirect effects, or the full mediated and moderated structure implied by the conceptual framework. In addition, small-sample regression estimates limit the ability to draw stable inferences regarding conditional pathways and execution-stage contingencies.

To address these limitations, the study advances to Stage D, which employs Structural Equation Modelling (SEM). SEM enables:

• Simultaneous estimation of measurement and structural relationships,
• Formal testing of mediated pathways linking MarTech to Brand Propensity and Branded Purchase Realization (BPR), and
• Systematic evaluation of moderation by Validators, Demographics, and Budget Pressure within a single integrated model.

By modeling both latent constructs and structural pathways simultaneously, SEM allows the study to evaluate whether the confidence formation mechanism identified in Stage ABC remains robust when measurement error is explicitly accounted for and when the full system of relationships is estimated jointly. Accordingly, Stage D is designed to move beyond diagnostic association toward a coherent system-level assessment of how digitally mediated

cognition, confidence formation, social validation, and execution-stage feasibility constraints jointly shape realized brand outcomes. The sections that follow report measurement model validation, structural path estimates across Models M1–M5, and comparative model diagnostics, while deferring theoretical interpretation to the Discussion chapter.

6.4 Sample Profile for Stage D (SEM Dataset)

The Stage D Structural Equation Modelling (SEM) analysis is based on a final usable sample of 506 respondents, derived from an initial pool of 660 survey responses. Cases were excluded due to lack of consent, incomplete responses, and response-quality filters (speeding and straight-lining). This screening ensured that SEM estimation was conducted on a dataset reflecting high response integrity and decision consistency. Such screening procedures are standard in survey-based SEM studies and help ensure that estimated structural relationships reflect considered decision responses rather than artefacts of inattentive or incomplete participation.

The sample reflects a mature, decision-active homeowner base. Respondents below 35 years comprise 214 (42.3%), those aged 36–45 comprise 188 (37.2%), and those above 45 comprise 104 (20.6%). This distribution aligns with the demographic profile of active individual house builders and renovation-stage consumers, who are typically in active household decision phases related to housing and construction. The presence of respondents across these age groups also allows examination of how digital information engagement operates across different stages of household decision-making.

Respondents exhibit a balanced educational spread: school / ITI / diploma (155; 30.6%), undergraduate (184; 36.4%), and postgraduate and higher (167; 33.0%). This spread is particularly relevant for the present study because educational attainment can shape how effectively consumers interpret and integrate digital information when forming brand confidence.

The occupational mix reflects both entrepreneurial and salaried segments: business / self-employed (165; 32.6%), employees (government / private / professionals; 271; 53.6%), and others (non-working / homemakers / retired; 70; 13.8%). This composition supports examination of decision context and validator engagement across consumer types. In the context of individual house building, such occupational diversity is expected to influence both

the nature of project involvement and the reliance placed on professional validators during execution.

Monthly household income shows meaningful variation in affordability and feasibility context: below ₹1 lakh (234; 46.2%), ₹1–2 lakh (120; 23.7%), and above ₹2 lakh (152; 30.0%). This stratification allows SEM models to evaluate feasibility constraints without restricting the sample to a narrow economic band. The presence of income variation is important for assessing whether budget-related feasibility pressures influence the translation of brand confidence into realized purchase behavior at execution.

The sample also reflects variation in homophily, defined as the tendency to rely on socially similar peers when validating decisions. Approximately 70% of respondents report moderate to strong agreement that they rely on socially similar peers, indicating that informal social similarity forms part of the broader decision environment. Homophily is treated as a contextual alignment characteristic rather than a primary explanatory construct and is retained to support interpretation of how informal peer influence may interact with digital information use and institutional validation mechanisms. Consistent with the conceptual framework, however, such peer alignment is treated as an ambient background condition rather than as a direct causal pathway within the structural model.

Brand advocacy was captured descriptively through a post-purchase recommendation item ("Would you recommend this brand to others?"). Of the 506 respondents, 346 (≈68%) reported that they would probably or definitely recommend the brand, 146 (≈29%) expressed neutrality or reluctance, and 14 responses were missing. This distribution is not modelled as a construct but serves as contextual reinforcement that Brand Propensity reflects a confidence state strong enough to extend into post-purchase endorsement. Although advocacy is not formally incorporated into the SEM structure, the distribution provides descriptive support that the confidence orientation captured by Brand Propensity is associated with positive evaluative outcomes beyond the purchase decision itself.

Overall, the final sample size (N = 506) comfortably exceeds recommended thresholds for SEM given the moderate complexity of the structural model. ***A priori power analysis using G*Power indicated a minimum required sample size of approximately 119 observations for detecting medium effects at conventional power and significance levels, indicating that the available dataset substantially exceeds statistical power requirements.** The demographic and economic spread ensures that the SEM analysis reflects real-world

heterogeneity in individual house-building decisions rather than a narrowly homogeneous digital cohort. Accordingly, the dataset is well suited to testing the mediated formation–execution pathway linking MarTech engagement, Brand Propensity, and branded purchase outcomes, while allowing disciplined incorporation of validator influence, switching dynamics, and feasibility constraints. This breadth of respondent characteristics therefore supports the study's objective of examining digitally informed decision processes within a realistic and heterogeneous construction-consumer environment.

6.4 Measurement Model Assessment

6.4.1 Purpose and Role of the Measurement Model

Before estimating the structural relationships among MarTech engagement, Brand Propensity, Validators, and branded purchase outcomes, the adequacy of construct measurement is assessed. The objective of this step is to verify that latent constructs included in the SEM are operationalized in a manner that is reliable, internally consistent, and conceptually aligned with their intended theoretical domains.

Consistent with the staged analytical design of the study, the measurement model plays a confirmatory and gatekeeping role. While construct conceptualization and sequencing were grounded in phenomenon observation, qualitative refinement, and Stage ABC diagnostics, SEM requires explicit verification that latent variables demonstrate acceptable psychometric properties prior to substantive structural interpretation.

Measurement evaluation follows established PLS-SEM guidelines, focusing on:

- Indicator reliability
- Internal consistency reliability
- Convergent validity
- Discriminant validity

Only constructs theorized and specified as reflective latent variables (e.g., MarTech) are subjected to formal measurement assessment. By design, formation-stage conditioning variables and execution-stage boundary variables (e.g., Validator Consulting, Demographics composite, Validator Switch Influence, and Budget Dynamics) enter the SEM as observed single-item indices or formative composites and are therefore not evaluated using reflective reliability diagnostics.

6.4.2 Measurement of MarTech (Digitally Mediated Information Engagement)

MarTech represents consumers' digitally mediated engagement with construction-related information during the exploratory and evaluative stages of the decision journey. Within the conceptual framework, MarTech is positioned as an upstream cognitive driver, shaping how consumers process information and form internal brand confidence, rather than as a direct determinant of purchase execution.

MarTech is operationalized using indicators capturing:

• Frequency of digital interaction
• Trust in online information
• Ease of understanding online brand information
• Overall satisfaction with digital information prior to purchase

At scale, these indicators capture evaluative engagement quality (trust, ease, *and satisfaction with clarity and usefulness of digital information*) while retaining exposure intensity (frequency), aligning conceptually with the Stage ABC distinction between diagnostic processing and superficial browsing. Collectively, they reflect active evaluative engagement, distinguishing purposeful information processing from passive exposure.

MarTech is modelled as a reflective latent construct, with observed items treated as manifestations of an underlying propensity toward digitally mediated information engagement.

Table 6.4.1: MarTech Indicators and Measurement Specification

Questionnaire Item	Q#	Construct	Indicator Code	Indicator Description (for SEM)	Measurement Logic
How often do you see or forward construction-related content online?	Q7	MarTech	**mt_freq**	Frequency of exposure to and forwarding of construction-related digital content	Reflective
How much do you trust such information?	Q8	MarTech	**mt_trust**	Trust in digitally sourced construction information	Reflective
How easy is it to understand brand information available online?	Q9	MarTech	**mt_ease**	Perceived ease of understanding online brand information	Reflective
Overall satisfaction with digital information before purchase	Q10	MarTech	**mt_clarity_imp**	Satisfaction with clarity and usefulness of digital information prior to purchase	Reflective

6.4.3 Measurement of Brand Propensity (Internal Brand Confidence — Mediator)

Brand Propensity represents the consumer's internal confidence that a particular brand is appropriate prior to purchase execution. It captures a psychologically meaningful state of conviction and readiness, functioning as the study's central mediating construct linking upstream information engagement to downstream execution outcomes.

Consistent with qualitative insights and Stage ABC diagnostics, Brand Propensity is conceptualized as a purpose-specific, unidimensional confidence state rather than a multi-faceted attitudinal bundle. Empirically, confidence resolution emerged as a dominant singular cognitive outcome, justifying a parsimonious single-item specification.

Although the indicator is recorded post-purchase, it is treated as a retrospectively reported proxy for pre-execution confidence, consistent with respondent narratives indicating that brand inclination was formed prior to entering the physical marketplace. In the study context—where respondents frequently describe pre-store decision finality—the item is interpreted as a recall-based indicator of the confidence state that existed prior to execution rather than as post-purchase satisfaction.

Table 6.4.2: Brand Propensity Measurement Specification

Questionnaire Item	Q#	Construct	Indicator Code	Indicator Description (for SEM)	Measurement Logic
Did you validate your brand choice after purchase?	Q13	Brand Propensity	**bp_postval_01**	Revealed internal confidence that the selected brand was appropriate at the point of purchase execution	Reflective (Single-Item)

Given its single-item specification, internal consistency and convergent validity diagnostics are not applicable by design. Accordingly, Brand Propensity is evaluated primarily through:

• Conceptual coherence with the phenomenon framing, and
• Its structural behavior across model specifications.

6.4.4 Moderating Constructs and Contextual Variables (Observed)

Several constructs enter the SEM as observed moderators, formative composites, or contextual boundary variables rather than as latent variables. Their role is to capture heterogeneity in decision context and execution-stage constraints without repositioning them as core explanatory drivers of the central cognitive pathway.

• **Demographics.** Age, education, and income are incorporated in Stage D as a formative demographic composite (as specified in the structural models) to account for structural heterogeneity in decision context and baseline confidence formation. Demographics is therefore treated as an observed contextual moderator/composite rather than as a latent construct.

• **Validator Consulting.** Validator consulting captures whether consumers engaged engineers, masons, or dealers during the confidence-formation phase. Validators are theorized as legitimizing or scrutinizing actors rather than primary originators of brand choice; accordingly, validator consulting is modelled as an observed formative composite in the structural specification.

• **Validator Switch Influence.** Execution-stage switching pressure is modelled explicitly as Validator Switch Influence, capturing last-mile redirection prompts operating at or near the point of purchase execution. This variable is treated as an observed execution-stage conditioning mechanism influencing branded purchase outcomes rather than confidence formation.

• **Budget Dynamics (Budget Pressure / Feasibility Constraint).** Budget dynamics captures execution-stage feasibility pressure linked to affordability constraints and is treated as a late-stage boundary condition shaping whether pre-formed confidence translates into branded purchase realization. This replaces any generic "finance influence" wording unless finance-specific variables were directly modelled.

• **Homophily (contextual; not modelled in this chapter).** The sample also reflects variation in homophily, defined as the tendency to rely on socially similar peers when validating decisions. Approximately 70% of respondents report moderate to strong agreement that they rely on socially similar peers, indicating that informal social similarity forms part of the broader decision environment. Homophily is retained here only as a contextual descriptor of the decision setting and is not incorporated into the Stage D SEM specifications reported in this

chapter. It is therefore not interpreted as part of the core formation–execution pathway tested in Models M1–M5.

6.5 Structural Model Results

This section reports the results of the Stage D Structural Equation Modelling (SEM) analysis. A sequence of five models (M1–M5) is estimated to progressively *evaluate* the mediated formation–execution pathway linking MarTech engagement, Brand Propensity, and Branded Purchase Realization, while introducing validator conditioning, execution-stage disturbances, and financial feasibility constraints. Each model builds on the prior specification to:

- Isolate structural regularities,
- Identify breakdown points, and
- Refine understanding of how digitally mediated confidence translates into realized purchase outcomes.

All models are estimated using PLS-SEM with 5,000 bootstrapped resamples (two-tailed). Measurement properties were confirmed prior to structural estimation (see Section 6.4).

6.5.1 Model M1: Baseline Structural Specification — MarTech → Brand Propensity → Branded Purchase Realization

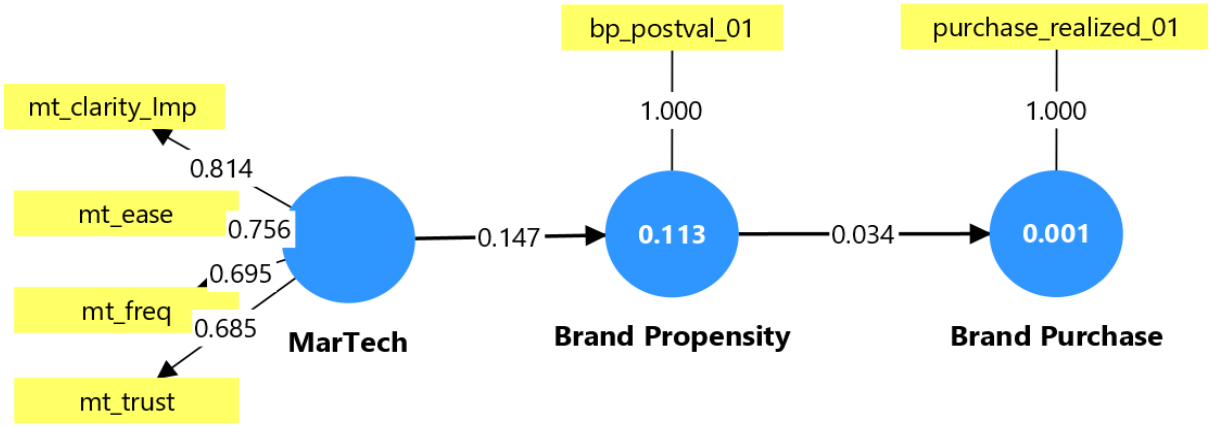
This subsection reports the results of Model M1, which serves as the baseline structural specification for the study. The model evaluates the core mediated pathway in which digitally mediated information engagement (MarTech) influences Brand Propensity, and Brand Propensity, in turn, is expected to predict Branded Purchase Realization (BPR).

The objectives of this baseline model are to:

- Establish the directional coherence of the central theoretical pathway.
- Assess whether confidence formation alone is sufficient to explain execution-stage outcomes.
- Provide a reference point for subsequent models that introduce validator conditioning, execution-stage disturbances, and contextual constraints.

Model M1 is estimated using PLS-SEM, with bootstrapped inference based on 5,000 resamples (two-tailed). Figure 6.5.1 presents the structural model with standardized path coefficients and explained variance.

(Figure 6.5.1: Baseline Structural Model (M1): MarTech → Brand Propensity → Branded Purchase Realization)



Structural Path	Original Sample (β)	Sample Mean (M)	STDEV	t-Statistic	p-Value
MarTech → Brand Propensity	**0.147**	**0.149**	**0.018**	**8.101**	**< .001**
Brand Propensity → Branded Purchase Realization	0.034	0.034	0.042	0.823	0.411
MarTech → Branded Purchase Realization	0.005	0.005	0.006	0.803	0.422

Results Interpretation (Direct Effects)

Results indicate that MarTech is positively and statistically significantly associated with Brand Propensity ($\beta = 0.147$, $t = 8.101$, $p < .001$), **providing empirical support for the conceptualization of digitally mediated information engagement as an upstream confidence-forming mechanism.** Greater evaluative engagement with digital construction-

related information is associated with stronger internal confidence in brand suitability. **This is consistent with H1 / RQ1 at the latent-variable level.**

However, Brand Propensity does not significantly predict Branded Purchase Realization in this baseline specification (β = 0.034, p = 0.411). The direct effect of MarTech on BPR is also non-significant (β = 0.005, p = 0.422).

Taken together, these results indicate that:

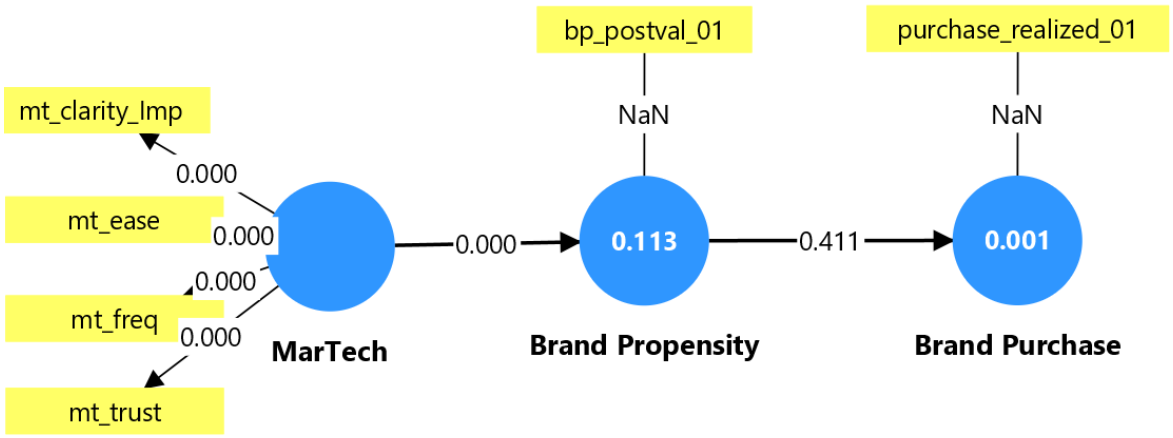
- While MarTech clearly shapes Brand Propensity,
- **Confidence formation alone does not translate into execution-stage realization in Model M1**.

This suggests the presence of downstream conditioning or constraint mechanisms that are not yet accounted for in the baseline specification.

Notably, this pattern differs from the Stage ABC diagnostic logit results, where Brand Propensity showed a strong association with BPR; this divergence is reported here as an empirical feature of the scale model and is revisited after introducing conditioning variables in subsequent models.

6.5.1a Specific Indirect Effect (Bootstrapped), Model M1

Table 6.5.2 — Specific Indirect Effect: MarTech → Brand Propensity → Branded Purchase Realization



Indirect Path	Original Sample (β)	Sample Mean (M)	STDEV	t-Statistic	p-Value	95% CI (2.5%, 97.5%)
MarTech → Brand Propensity → Branded Purchase Realization	0.005	0.005	0.006	0.803	0.422	[−0.007, 0.018]

Results Interpretation (Indirect Effect)

The specific indirect effect is not statistically significant (β = 0.005, p = 0.422), and the bootstrapped 95% confidence interval includes zero ([-0.007, 0.018]). Accordingly, the mediated pathway is not supported in the baseline structural model.

This indicates that, in Model M1:

- MarTech engagement does contribute to confidence formation (Brand Propensity), but
- **Brand Propensity alone does not operate as a sufficient transmission mechanism for translating digital cognition into realized brand purchase at the execution stage**.

From the standpoint of H2 and H3:

- **H1 / RQ1 (MarTech → Brand Propensity) receives clear support.**
- **H2 / RQ2 (Brand Propensity → BPR) and H3 / RQ3 (mediation) do not receive support in this baseline SEM specification.**

Positioning of Model M1 within the Sequential Structural Strategy

Model M1 therefore functions as a baseline structural reference point, establishing that:

- There is strong empirical coherence for the MarTech → Brand Propensity pathway at scale.
- Confidence formation alone is insufficient to explain purchase realization outcomes in the baseline SEM specification, and the core mediation implied by H3 is not supported when downstream constraints are omitted.

These findings motivate the introduction of validator conditioning, execution-stage disturbances, and contextual feasibility constraints in subsequent model specifications (M2–M5). Consistent with the staged analytical design of the study, detailed theoretical

interpretation of these patterns is deferred to the Discussion chapter, while this chapter focuses on disciplined empirical reporting.

6.5.2 Model M2 — Validator- and Demographics-Conditioned Confidence Formation (Stage D)

Purpose. Model M2 extends the baseline structural specification (Model M1) by introducing formation-stage conditioning mechanisms that shape how digitally mediated information engagement (MarTech) translates into Brand Propensity. Specifically, Model M2 incorporates two theoretically motivated moderators:

- Validator Consulting, modelled as a formative composite capturing consultation with key ecosystem actors (dealer, engineer, mason).
- Demographics, modelled as a formative composite reflecting age group, education level, and income bracket.

These constructs represent social validation forces and structural consumer heterogeneity, respectively. The objective of Model M2 is to assess whether digitally formed brand confidence is socially filtered through validator engagement and demographically conditioned, thereby testing whether MarTech operates as an unconditional confidence driver or as a contingent influence embedded within offline and socio-economic context.

(Figure 6.5.2a — M2 Structural Diagram, PLS Algorithm)

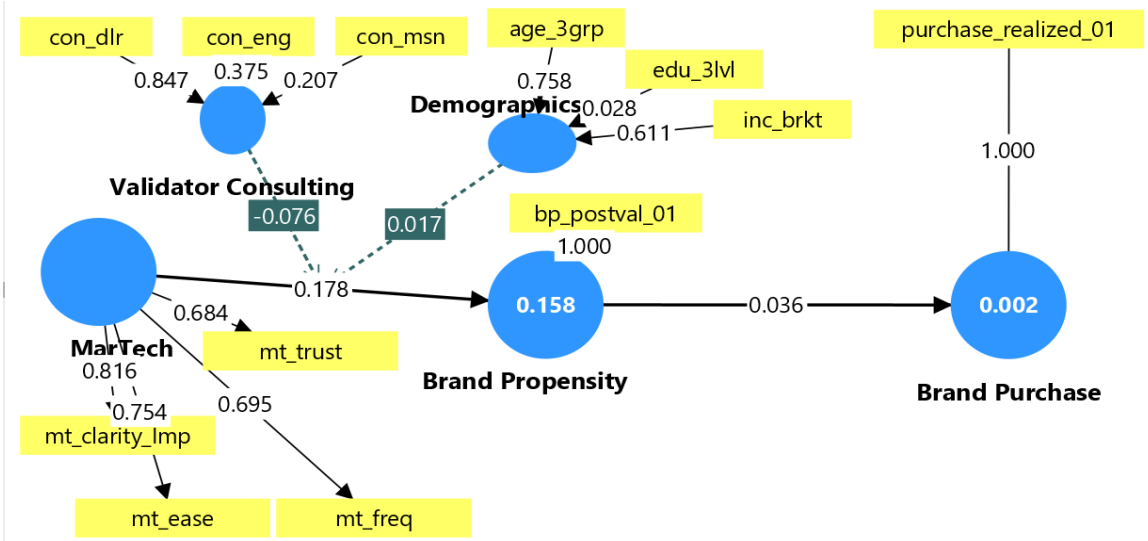


Table 6.5.2a — Model M2 Explanatory Power (PLS Algorithm)

Endogenous Construct	**R^2**	**R^2 Adjusted**
Brand Propensity	0.158	0.149
Branded Purchase Realization (BPR)	0.002	0.000

Model M2 explains 15.8% of the variance in Brand Propensity, representing an improvement over the baseline model and indicating that incorporating validator and demographic conditioning enhances explanatory coverage at the confidence-formation stage. *In contrast, the model continues to explain a negligible share of variance in BPR, reinforcing the premise that execution-stage realization is governed by downstream constraints beyond confidence formation alone.*

(Figure 6.5.2b — Structural Model M2A, Bootstrapped; 5,000 subsamples, two-tailed)

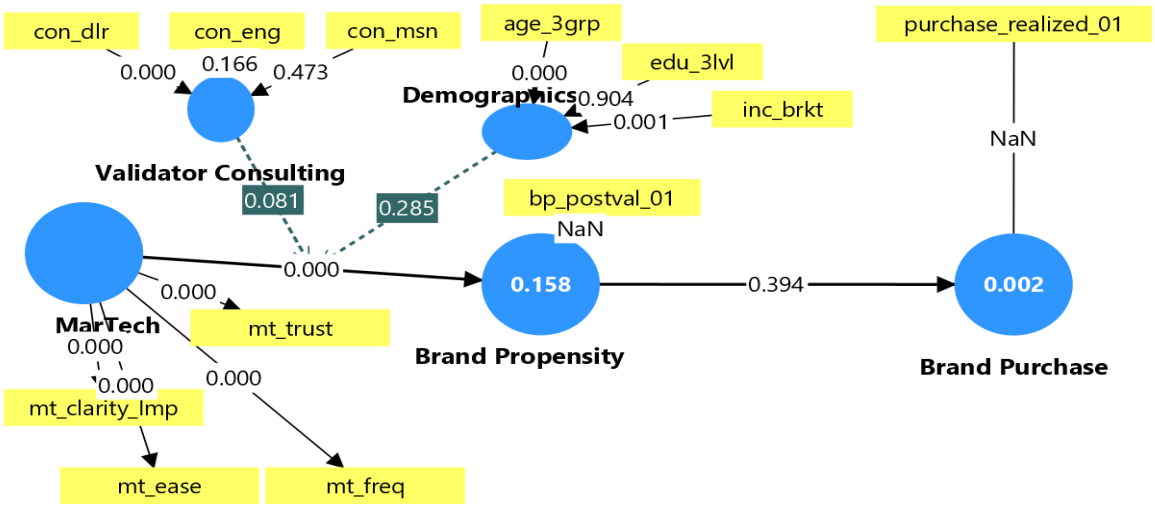


Table 6.5.2b — Bootstrapped Structural Path Results (Model M2A)

(Direct and Moderation Effects)

Structural Path	β	t-value	p-value
MarTech → Brand Propensity	**0.178**	**5.543**	**< .001**
Brand Propensity → Branded Purchase Realization (BPR)	0.036	0.852	0.394
Validator Consulting → Brand Propensity	**0.088**	**2**	**0.046**
Demographics → Brand Propensity	**−0.077**	**4.192**	**< .001**
Validator Consulting × MarTech → Brand Propensity	−0.076	1.746	0.081
Demographics × MarTech → Brand Propensity	0.017	1.07	0.285

Bootstrapped Structural Results

Core MarTech effect

Consistent with Model M1, MarTech exhibits a positive and statistically significant association with Brand Propensity ($\beta = 0.178$, $p < .001$), reaffirming that digitally mediated information engagement functions as a confidence-forming mechanism in consumer brand evaluation. This provides further support for the upstream component of H1 / RQ1 in a context where conditioning mechanisms are explicitly modelled.

Validator Consulting as a Conditioning Mechanism

Validator Consulting exhibits a significant positive direct effect on Brand Propensity ($\beta = 0.088$, $p = 0.046$), indicating that greater consultation with ecosystem validators is associated with higher internal confidence in brand suitability.

The interaction between Validator Consulting and MarTech is negative and marginally significant ($\beta = -0.076$, $p = 0.081$), suggesting that offline validation attenuates the marginal influence of digital engagement on Brand Propensity. Substantively, this implies that validators:

- Do not merely amplify digital brand impressions;
- Instead recalibrate, discipline, or partially override digitally formed confidence.

This is consistent with the study's proposition that offline ecosystem actors serve as interpretive filters rather than passive reinforcers of digital cognition. Relative to the original H5 logic (validators as execution-stage moderators), Model M2 begins to reveal *a formation-stage filtering role as well.*

Demographics as a Structural Conditioning Mechanism

Demographics displays a significant negative direct association with Brand Propensity ($\beta = -0.077$, $p < .001$), indicating that structural consumer characteristics shape baseline confidence formation. Given the formative composition of this construct, this effect reflects age- and income-driven heterogeneity in predisposition levels.

The interaction between Demographics and MarTech is positive but statistically non-significant ($\beta = 0.017$, $p = 0.285$), indicating that demographic positioning does not materially

moderate the strength of the MarTech → Brand Propensity relationship in this specification. Accordingly:

- Demographic influence appears to operate primarily as a level-shifting structural factor,
- Rather than as a systematic amplifier of digital engagement effects.

This is consistent with treating demographics as contextual filters (as in H4 / RQ4) rather than as strong interaction drivers in the SEM context.

Execution-Stage Implication (Unchanged Pattern)

As in Model M1, the Brand Propensity → BPR path remains positive but statistically non-significant ($\beta = 0.036$, $p = 0.394$). This finding reinforces the conclusion that confidence formation alone does not translate into execution-stage brand realization in this SEM specification.

The persistence of this pattern across M1 and M2 supports the premise that realized purchase outcomes are constrained by downstream feasibility factors, offline channel mediation, and situational execution frictions not yet captured in the formation-stage pathway. **In terms of hypotheses, this continues to challenge H2 / RQ2 and H3 / RQ3 in their simplest form, motivating richer execution-side modelling.**

Formative Measurement Diagnostics

Validator Consulting and Demographics were modelled as formative composites. Collinearity diagnostics indicate no evidence of multicollinearity, with formative indicators exhibiting outer VIF values close to 1.0 (range ≈ 1.002–1.035).

Formative weight estimation indicates that:

- Validator Consulting is primarily dealer-driven (dealer weight = 0.847, $p < .001$), whereas engineer and mason consultation do not contribute reliably within the composite.
- The Demographics composite is predominantly driven by age ($w = 0.758$, $p < .001$) *and income ($w = 0.611$, $p = 0.001$)*, while education does not exhibit a statistically meaningful contribution.

These results suggest that:

- Validator conditioning in this sample is largely commercial channel anchored (dealers as primary validators).
- Demographic heterogeneity operates primarily through life-stage and income-linked mechanisms, consistent with the individual house-building context.

Positioning of Model M2 within the Sequential Structural Strategy

Model M2 establishes that:

- MarTech reliably shapes Brand Propensity even when validator and demographic conditioning are accounted for.
- Validator consultation exerts both a direct positive effect and a marginally negative conditioning effect on the MarTech → Brand Propensity link, highlighting validators as filters rather than amplifiers of digital cognition.
- Demographic structure shapes baseline confidence levels but does not materially moderate the MarTech → Brand Propensity relationship in this specification.

Collectively, these findings show that confidence formation is contingent, not purely digital, and they motivate the introduction of execution-stage disturbances and switching dynamics in Model M3, as the analytical sequence moves from formation mechanisms toward realized purchase outcomes under real-world constraints.

6.5.3 Model M3 — Execution-Stage Switch Influence (Stage D)

Purpose

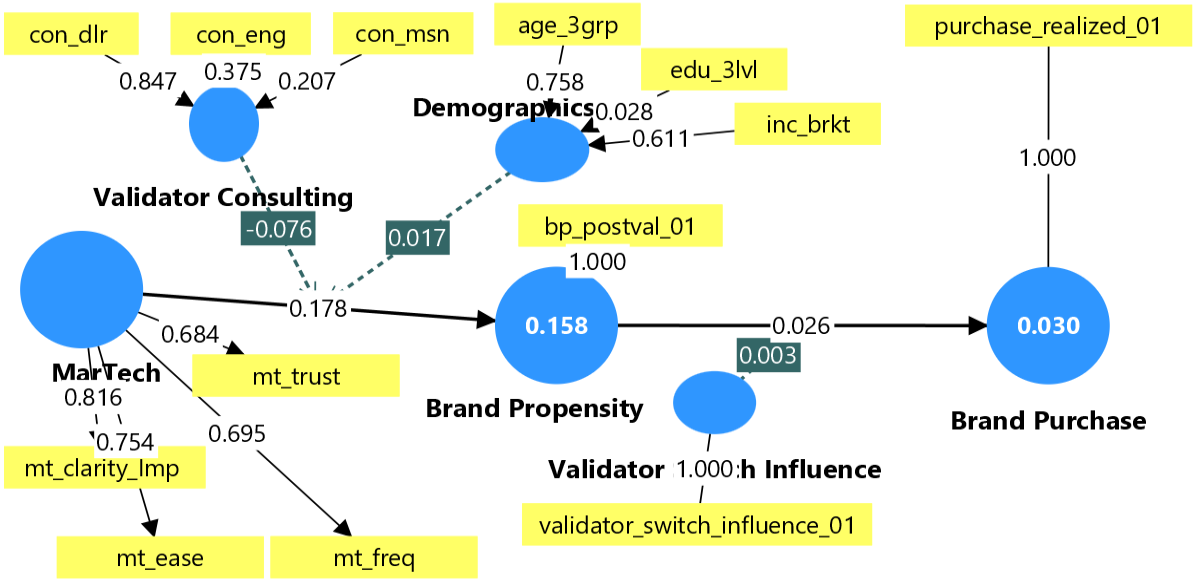
Model M3 extends Models M1 and M2 by shifting analytical focus from confidence formation to execution-stage realization. While earlier models establish that digitally mediated engagement (MarTech) contributes to Brand Propensity and that confidence formation is socially conditioned by validators and demographics, Model M3 introduces Validator Switch Influence to examine *whether last-mile brand redirection pressures help explain the persistent gap between predisposition and realized brand purchase*.

Switch Influence is operationalized as an observed execution-stage construct capturing the extent to which validators or channel actors induce brand switching or override the buyer's planned brand choice at the point of purchase. Model M3 estimates:

- The direct effect of Switch Influence on Branded Purchase Realization (BPR), and
- Whether Switch Influence moderates the Brand Propensity → BPR relationship.

Model M3 is estimated using PLS-SEM with 5,000 bootstrapped resamples (two-tailed).

(Figure 6.5.3a — Structural Model (M3): Switch Influence Extension)



Model Fit and Explanatory Power

Table 6.5.3a — Model M3 Explanatory Power (PLS Algorithm)

Endogenous Construct	R^2	R^2 Adjusted
Brand Propensity	0.158	0.149
Branded Purchase Realization (BPR)	0.03	0.024

Model M3 explains 15.8% of the variance in Brand Propensity (unchanged from M2) and increases explained variance in BPR to 3.0%, representing a modest but meaningful incremental gain relative to Model M2 after introducing Switch Influence as an execution-stage construct. *This indicates that last-mile redirection pressure contributes somewhat to explaining execution-stage outcomes, even though overall explanatory power remains limited.*

(Figure 6.5.3b — Structural Model (M3): Switch Influence Extension, Bootstrapped)

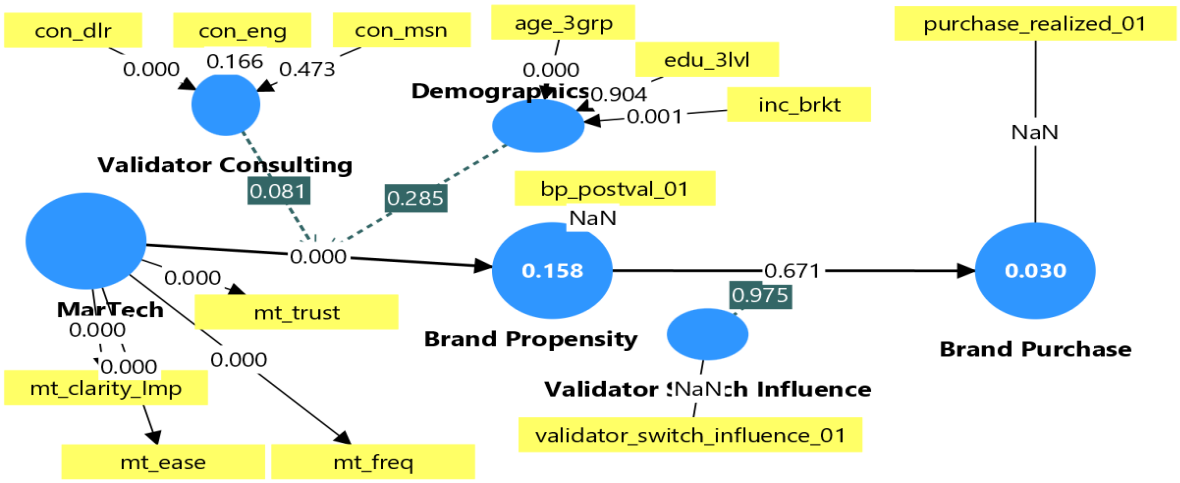


Table 6.5.3b — Bootstrapped Structural Path Results (Model M3)

(5,000 subsamples; two-tailed)

Structural Path	Original Sample (β)	Sample Mean (M)	STDEV	t-Statistic	p-Value
MarTech → Brand Propensity	**0.178**	**0.173**	**0.032**	**5.543**	**< .001**
Validator Consulting → Brand Propensity	**0.088**	**0.098**	**0.044**	**2**	**0.046**
Demographics → Brand Propensity	**−0.077**	**−0.080**	**0.018**	**4.192**	**< .001**
Demographics × MarTech → Brand Propensity	0.017	0.02	0.016	1.07	0.285
Validator Consulting × MarTech → Brand Propensity	**−0.076**	**−0.075**	**0.044**	**1.746**	**0.081**
Brand Propensity → Branded Purchase Realization (BPR)	0.026	0.027	0.06	0.425	0.671
Validator Switch Influence → Branded Purchase Realization (BPR)	0.135	0.136	0.072	1.869	0.062
Validator Switch Influence × Brand Propensity → Branded Purchase Realization (BPR)	0.003	0.002	0.081	0.031	0.975

Results Interpretation: Formation stage (unchanged core pattern)

Consistent with Models M1 and M2:

- MarTech remains a strong and statistically significant predictor of Brand Propensity ($\beta = 0.178$, $p < .001$), reinforcing the conceptualization of digitally mediated engagement as a confidence-forming mechanism.

- Validator Consulting continues to show a positive direct association with Brand Propensity (β = 0.088, p = 0.046), indicating that offline consultation strengthens predisposition.
- Demographics exhibits a significant negative association with Brand Propensity (β = −0.077, p < .001), reflecting systematic heterogeneity in confidence formation across age and income profiles.

Moderation results at the formation stage also remain substantively similar to Model M2:

- Demographics does not significantly condition the MarTech → Brand Propensity relationship (*p = 0.285*).
- Validator Consulting marginally attenuates this relationship (β = −0.076, p = 0.081), *suggesting that offline consultation partially tempers digital confidence formation rather than amplifying it.*

Execution-Stage Outcomes — Switch Influence

Model M3 introduces Switch Influence to explain variance in execution-stage outcomes:

- **The direct effect of Switch Influence on BPR is positive and marginally significant (β = 0.135, p = 0.062), indicating that last-mile validator interventions are empirically associated with realized purchase outcomes at the 10% threshold.** This provides partial support for the proposition that execution-stage redirection pressures contribute to purchase realization dynamics.
- By contrast, the interaction term testing whether Switch Influence moderates the Brand Propensity → BPR pathway is effectively zero and statistically non-significant (β = 0.003, p = 0.975). Thus, Switch Influence does not appear to operate by systematically weakening or strengthening the conversion of predisposition into realized purchase; rather, its contribution—where present—appears to be direct rather than conversion-contingent.

Brand Propensity continues to exhibit a weak and non-significant association with BPR (β = 0.026, p = 0.671), reinforcing the cross-model finding that confidence formation alone remains insufficient to explain realized brand purchase in this execution environment.

Measurement Notes

Validator Consulting and Demographics remain modelled as formative composites, replicating Model M2's structure. MarTech indicators remain statistically significant and stable. Switch Influence is modelled as a single-item observed construct; accordingly, internal reliability indices are not applicable.

Positioning of Model M3 within the Sequential Structural Strategy

Model M3 advances the sequential structural program by explicitly introducing an execution-stage mechanism to address the persistent conversion gap observed in Models M1 and M2. The results show that:

- MarTech-driven confidence formation remains empirically robust.
- Execution-stage outcomes are only weakly shaped by Brand Propensity, and
- They show limited but non-trivial sensitivity to last-mile switching pressure (direct effect of Switch Influence, no moderation effect).

These findings indicate that switching dynamics alone do not resolve the confidence–realization gap and *therefore motivate the introduction of budget and financial feasibility constraints in Model M4 to further investigate sources of realization-stage variance.*

6.5.4 Model M4 — Budget Pressure as an Execution-Stage Boundary Condition

Purpose

Model M4 extends the staged structural framework by introducing Budget Pressure (Financial Constraint) as an execution-stage boundary condition shaping whether brand intent ultimately translates into realized brand purchase. While Model M3 examined validator-induced switching as a social disruption mechanism at the point of execution, Model M4 theorizes that economic feasibility constraints may override brand confidence even when digitally mediated *Brand Propensity* is strong.

Accordingly, Model M4 evaluates whether:

(1) Brand Propensity predicts Brand Purchase Realization,
(2) Budget Pressure directly influences realized brand purchase, and
(3) Budget Pressure moderates the Brand Propensity → Brand Purchase pathway, capturing affordability-driven breakdowns between intended and realized brand decisions.

The upstream MarTech → Brand Propensity pathway is retained to test whether digital confidence formation remains structurally stable under financial pressure.

Figure 6.5.4a — Structural Model M4 (PLS Algorithm)

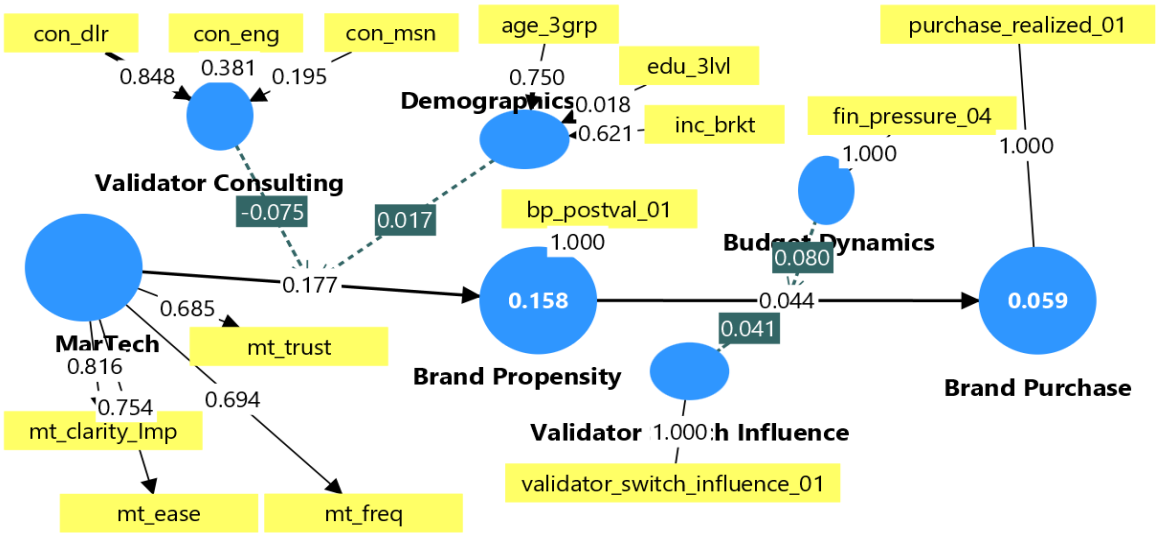


Table 6.5.4a — Model M4 Explanatory Power (R^2 from PLS Algorithm)

Endogenous Construct	R^2	R^2 Adjusted
Brand Propensity	0.158	0.149
Branded Purchase Realization (BPR)	0.059	0.049

Model Explanation (PLS Algorithm)

Model M4 explains 15.8% of variance in Brand Propensity, consistent with earlier models, indicating that digital engagement remains a stable confidence-forming mechanism. Notably, the model explains 5.9% of variance in BPR, representing a meaningful increase in execution-stage explanatory power relative to prior specifications. This improvement suggests that budgetary constraints contribute substantively to understanding why brand confidence does not consistently translate into realized purchase.

Figure 6.5.4b — Bootstrapped Structural Model (5,000 Subsamples, Two-Tailed)

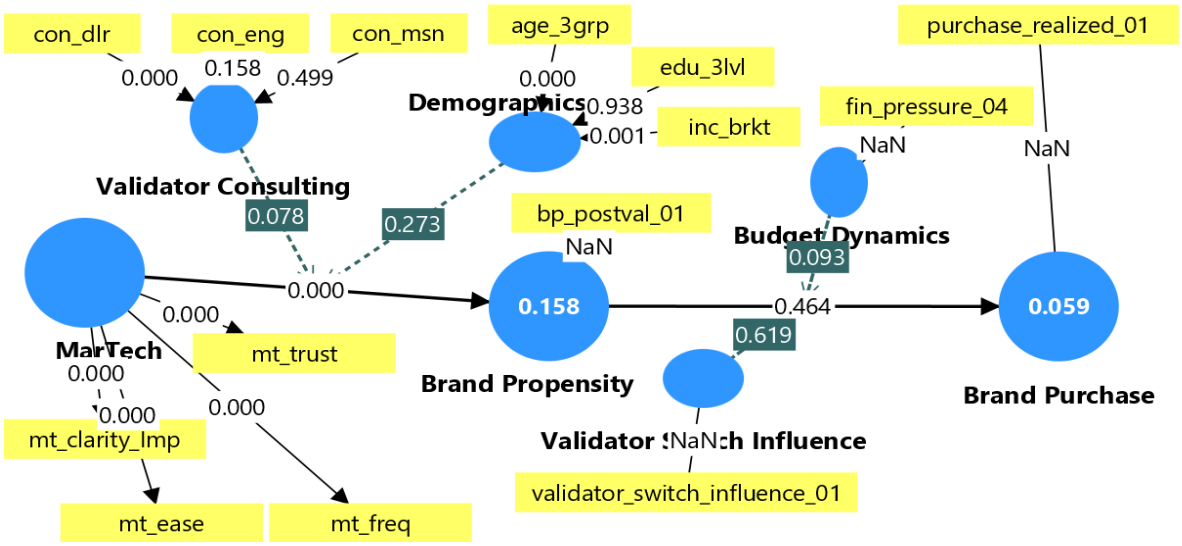


Table 6.5.4b — Bootstrapped Structural Path Results (Model M4)

Structural Path	β	p-value
MarTech → Brand Propensity	**0.177**	**< .001**
Brand Propensity → Branded Purchase Realization (BPR)	**0.044**	0.464
Budget Dynamics → Branded Purchase Realization (BPR)	**−0.123**	**0.004**
Budget Dynamics × Brand Propensity → Branded Purchase Realization (BPR)	**0.08**	0.093
Validator Switch Influence → Branded Purchase Realization (BPR)	**0.097**	0.17
Validator Switch Influence × Brand Propensity → Branded Purchase Realization (BPR)	**0.041**	0.619
Validator Consulting → Brand Propensity	**0.087**	**0.042**
Validator Consulting × MarTech → Brand Propensity	**−0.075**	0.078
Demographics → Brand Propensity	**−0.077**	**< .001**
Demographics × MarTech → Brand Propensity	**0.017**	0.273

Results Interpretation — Structural Effects

Upstream Stability: MarTech → Brand Propensity

Consistent with Models M1–M3, MarTech exhibits a positive and statistically significant association with Brand Propensity ($\beta = 0.177$, $p < .001$), reinforcing the study's central premise that digitally mediated information engagement functions as a robust confidence-forming mechanism in individual house builders' brand evaluation processes. This confirms that digital cognition remains structurally intact, even when execution-stage constraints are introduced.

Brand Propensity → Branded Purchase Realization (BPR) Remains Weak

The direct effect of Brand Propensity on Brand Purchase remains positive but statistically non-significant ($\beta = 0.044$, $p = .464$). This persistent pattern across models reinforces the study's core empirical finding:

Brand confidence alone is insufficient to guarantee realized brand purchase. This indicates that the breakdown between digital brand conviction and execution is not cognitive in origin, but instead reflects situational, feasibility-related, and execution-stage constraints.

Direct Effect of Budget Pressure on Branded Purchase Realization (BPR)

Budget Dynamics exhibits a negative and statistically significant direct effect on Branded Purchase Realization (BPR) ($\beta = -0.123$, $p = .004$). This indicates that greater perceived financial pressure reduces the likelihood that consumers will realize their originally preferred brand.

Substantively, this finding suggests that economic feasibility operates as a meaningful execution-stage constraint, *and is capable of overriding previously formed brand confidence.* Even when digital engagement and predisposition are strong, affordability considerations materially shape realized purchase outcomes.

Moderation Effect — Budget Pressure × Brand Propensity

The interaction between Budget Dynamics and Brand Propensity is positive and marginally significant ($\beta = 0.080$, $p = .093$), indicating that financial pressure conditions how effectively brand confidence converts into realized purchase.

In substantive terms:

• When budget pressure is low, stronger Brand Propensity is more likely to translate into realized purchase.
• *When budget pressure is high, even strong brand confidence is more likely to be attenuated or overridden by affordability constraints.*

While this moderation effect does not meet conventional 5% significance thresholds, the directional pattern is theoretically consistent with framing Budget Pressure as an execution-stage boundary condition rather than a formation-stage cognitive antecedent.

Validator Effects (Retained Controls)

Validator Consulting remains positively associated with Brand Propensity ($\beta = 0.087$, $p = .042$), indicating that ecosystem-based consultation contributes to strengthening confidence formation. The Validator × MarTech interaction remains directionally negative but statistically weak ($p = .078$), suggesting that validator involvement may partially temper digital influence, though the effect does not reach conventional significance thresholds.

By contrast, validator-induced switching at the execution stage does not exhibit a statistically reliable effect in this model, reinforcing the primacy of financial feasibility as the dominant execution-stage constraint in Model M4.

Demographic Conditioning

Model M4 strengthens the staged inference developed across Models M1–M3 by demonstrating that:

(1) MarTech consistently builds Brand Propensity, confirming the robustness of digital confidence formation.
(2) Brand Propensity alone remains insufficient to explain realized purchase, reinforcing the execution-gap phenomenon.
(3) Budget Dynamics constitutes a statistically meaningful execution-stage boundary condition, materially constraining brand realization even when predisposition exists; and
(4) Execution-stage explanatory power improves meaningfully when financial feasibility is introduced, highlighting the substantive role of economic constraints in legacy-category purchase decisions.

Taken together, Model M4 advances the study's central empirical narrative:

Digital channels shape what consumers want, but execution-stage financial constraints determine what they ultimately buy.

Consistent with the staged analytical design, theoretical synthesis and managerial interpretation are deferred to the Discussion chapter, while the present section maintains disciplined empirical reporting.

6.5.5 Model M5 — Structural Stress Test (Removing MarTech)

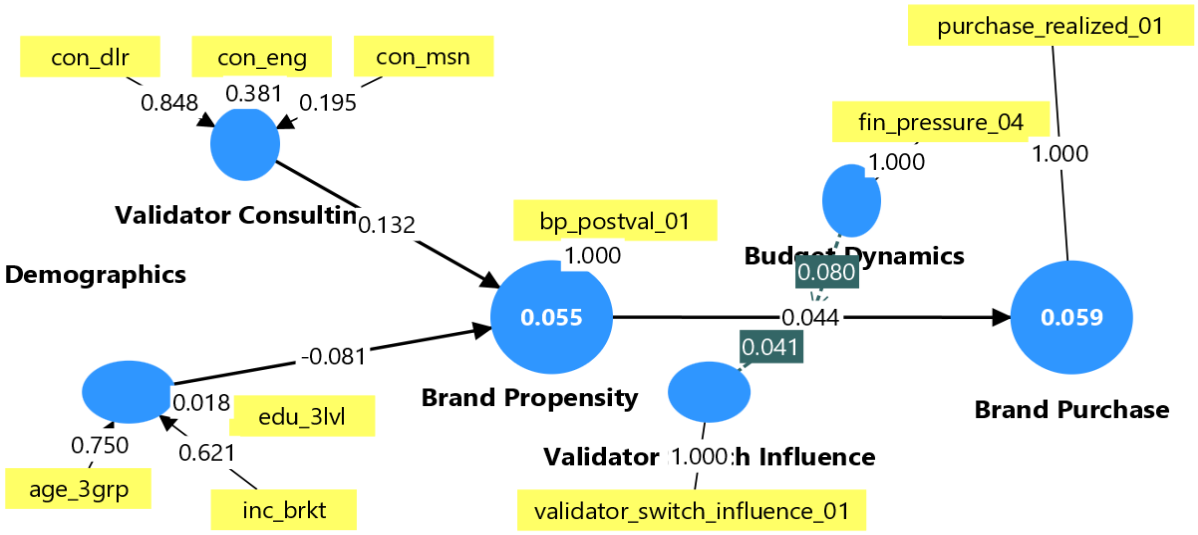
Purpose

Model M5 serves as a robustness and structural stress test, designed to evaluate whether the Brand Propensity → Branded Purchase Realization (BPR) mechanism retains explanatory power when MarTech is removed from the model. Unlike prior models, which treat MarTech as the upstream confidence-forming engine, Model M5 deliberately excludes MarTech to assess whether brand confidence can emerge and operate independently of digital engagement.

This model therefore tests whether:

- Brand Propensity remains structurally meaningful without MarTech,
- Budget Pressure continues to shape BPR, and
- The execution-stage boundary condition (budget) holds when the upstream formation mechanism is weakened.

(Figure 6.5.5a — Structural Model M5, PLS Algorithm)



Model Fit and Explanatory Power

Table 6.5.5a — Model M5 Explanatory Power (PLS Algorithm)

Endogenous Construct	R^2	R^2 Adjusted
Brand Propensity	0.055	0.051
Branded Purchase Realization (BPR)	0.059	0.049

Model Explanation (PLS Algorithm)

Removing MarTech results in a substantial collapse in explanatory power for Brand Propensity, with *R^2 falling* from approximately 0.158 in earlier models to 0.055. This sharp decline indicates that brand confidence formation does not sustain meaningfully in the absence of digital engagement, confirming that MarTech is a structural prerequisite rather than a peripheral driver.

While Branded Purchase Realization retains modest explanatory power *($R^2 = 0.059$)*, this appears to be driven primarily by execution-stage constraints rather than by confidence formation.

(Figure 6.5.5b — Bootstrapped Structural Model, 5,000 Subsamples, Two-Tailed)

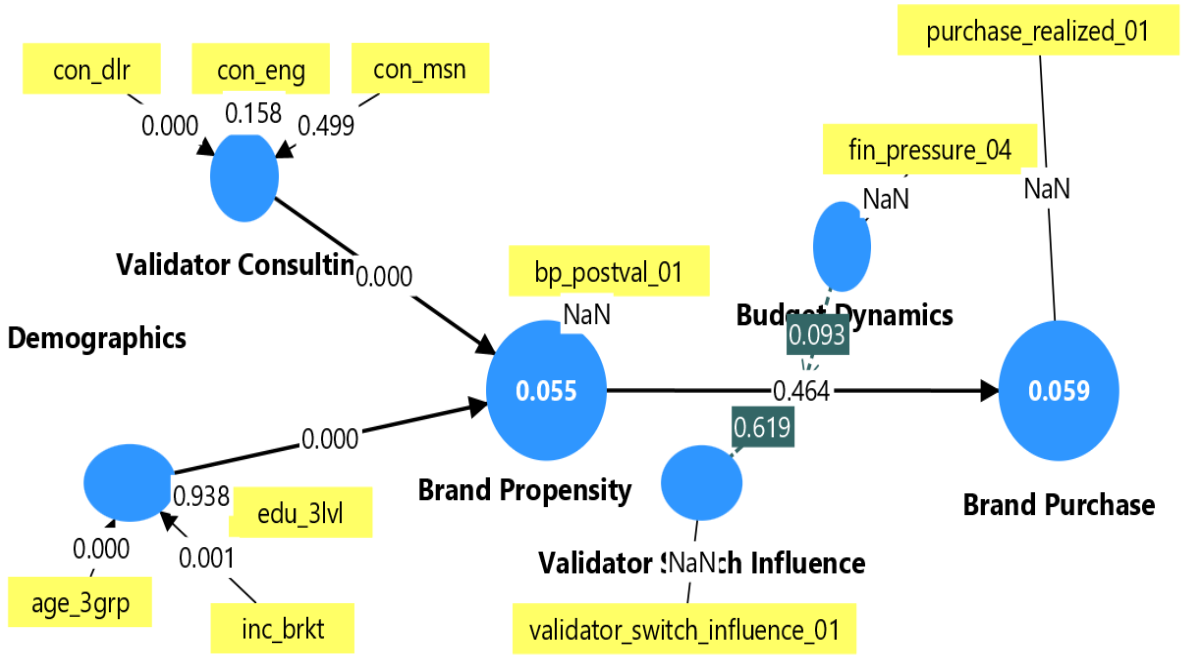


Table 6.5.5b — Bootstrapped Structural Path Results (Model M5)

Structural Path	β	t-value	p-value
Brand Propensity → Branded Purchase Realization (BPR)	0.044	0.732	0.464
Budget Dynamics → Branded Purchase Realization (BPR)	−0.123	2.873	0.004
Budget Dynamics × Brand Propensity → Branded Purchase Realization (BPR)	0.08	1.682	0.093
Validator Consulting → Brand Propensity	0.132	3.79	< .001
Validator Switch Influence → Branded Purchase Realization (BPR)	0.097	1.373	0.17
Validator Switch Influence × Brand Propensity → Branded Purchase Realization (BPR)	0.041	0.498	0.619
Demographics → Brand Propensity	−0.081	4.193	< .001

Results Interpretation — Failure of Brand Confidence Formation Without MarTech

Brand Propensity remains weakly predictive and structurally underpowered when MarTech is excluded (β = 0.044, p = 0.464). The dramatic reduction in explained variance confirms that Brand Propensity does not emerge as a stable construct in isolation, *reinforcing the central claim that digital engagement is the primary mechanism through which brand confidence is formed.*

This result validates MarTech as a necessary structural backbone, rather than an optional enhancement to an otherwise robust confidence construct.

Execution-Stage Constraint Persists (Budget Pressure)

Despite the upstream collapse, Budget Dynamics continues to exert a statistically significant negative effect on BPR (β = −0.123, p = 0.004). This indicates that financial feasibility remains an execution-stage constraint even when brand confidence is weak, confirming Budget Pressure as a downstream boundary condition operating independently of cognitive strength.

The interaction between Budget Dynamics and Brand Propensity remains directionally positive but marginal (β = 0.080, p = 0.093), suggesting that while affordability constraints condition execution, they cannot compensate for weakened brand conviction. Where confidence is fragile, budget pressure further reduces the likelihood of realizing the preferred brand.

Validator and Demographic Effects Remain Secondary

- Validator Consulting continues to show a positive association with Brand Propensity ($\beta = 0.132$, $p < .001$), but cannot restore the structural strength of Brand Propensity in the absence of MarTech.
- Validator Switch Influence at the execution stage remains statistically non-significant, providing no reliable evidence that switching pressures dominate outcomes once budget constraints and weak confidence are accounted for.
- Demographic effects persist in shaping baseline confidence levels ($\beta = -0.081$, $p < .001$), but also do not restore structural strength without MarTech.

Taken together, these patterns reinforce the conclusion that offline or structural factors cannot substitute for digital confidence formation; they only shape or bound it.

Conclusion — Structural Implication of Model M5

Model M5 demonstrates that removing MarTech materially destabilizes the brand confidence formation process, leading to weakened explanatory power and a structurally fragile pathway toward Branded Purchase Realization (BPR). The findings confirm that:

• MarTech is not a peripheral predictor; it is a foundational mechanism enabling Brand Propensity to exist as a meaningful construct.
• Budget Dynamics remains a robust execution-stage boundary condition, constraining realized purchase even when confidence is weak.

Thus, Model M5 serves as a negative-case validation, strengthening the study's overarching argument that:

• Digitally mediated cognition is the necessary precursor for brand confidence, and
• Execution-stage outcomes are ultimately governed by financial and situational boundary conditions.

However, the persistent weakness of the Brand Propensity → Branded Purchase Realization pathway in the pooled SEM models raises an additional question: whether this apparent breakdown reflects a universally weak relationship or ***whether it masks structural heterogeneity across demographic segments.*** *To examine this possibility, the analysis proceeds to robustness checks* ***using Multi-Group Analysis (MGA)****, testing whether the formation–execution pathway varies systematically across key respondent groups.*

6.5.6 Comparative Summary of Structural Models M1–M5

This subsection synthesizes Models M1–M5, summarizing structural regularities, points of breakdown, and the distinct inferential contribution of each model within the staged SEM program. The aim is to clarify which components of the theoretical pathway remain stable across specifications, which relationships fail to hold under expanded constraints, and how successive models refine understanding of confidence formation and execution-stage realization.

Comparative Structural Overview (M1–M5)

Table 6.5.5 (conceptual summary) positions the five SEM specifications relative to their core extensions and principal findings.

Model	Core Extension	What Holds Structurally	What Breaks / Weakens	Primary Contribution
M1	Baseline mediation (MarTech → BP → Branded Purchase Realization (BPR))	MarTech → Brand Propensity is significant	Brand Propensity → Branded Purchase Realization (BPR) is non-significant; indirect effect absent	Establishes baseline confidence-formation coherence; identifies execution-gap
M2	Validator & Demographic conditioning	MarTech → BP remains robust; Validator Consulting strengthens BP	BP → Branded Purchase Realization (BPR) remains non-significant	Shows confidence formation is socially and structurally conditioned
M3	Execution-stage Switch Influence	Formation-stage paths remain stable	Switch Influence only weakly explains purchase; BP → Branded Purchase Realization (BPR)remains weak	Introduces last-mile social disruption mechanism
M4	Budget Pressure (Financial Constraint)	MarTech → BP remains stable; Budget Pressure significantly predicts Branded Purchase Realization (BPR)	BP → Branded Purchase Realization (BPR) still weak	Demonstrates financial feasibility as a dominant execution-stage boundary condition
M5	Removal of MarTech (stress test)	Budget Pressure → Purchase remains significant	Brand Propensity collapses structurally	Confirms MarTech as foundational for confidence formation

Structural Regularities Across Models (What Held)

Across all five models, digitally mediated information engagement (MarTech) exhibits a consistently positive and statistically significant association with Brand Propensity wherever it is included. This stability indicates that digital engagement functions as a structurally robust upstream mechanism for confidence formation, largely invariant to:

- Validator conditioning
- Demographic heterogeneity
- Switching pressures
- Financial constraints

Validator Consulting also shows a stable positive association with Brand Propensity in all models in which it appears, **indicating that offline ecosystem actors reinforce and contextualize confidence, even though they are not the primary originators of brand choice.**

Finally, **Budget Dynamics** (Budget Pressure) demonstrates a consistently negative and statistically significant direct association with Branded Purchase Realization (BPR) in all models where it is included. This **pattern indicates that financial feasibility operates as a persistent execution-stage constraint on realized purchase outcomes.**

Structural Breakpoints and Persistent Weak Links (What Broke)

In contrast to the robustness of confidence formation, the Brand Propensity → Branded Purchase Realization (BPR) pathway remains weak and statistically non-significant across all SEM specifications (M1–M5). This persistent finding indicates that confidence formation alone is not a sufficient transmission channel for realized brand purchase within the observed execution environment.

Execution-stage social disruption mechanisms—operationalized as Validator Switch Influence—offer only limited explanatory leverage. While occasionally marginal in their direct association with BPR, they do not systematically moderate the relationship between Brand Propensity and realized purchase. **Consequently, last-mile social redirection emerges as a relatively weak aggregate driver of execution-stage outcomes**.

The most striking breakpoint appears in Model M5. When MarTech is removed, the structural coherence of Brand Propensity deteriorates sharply, with explanatory power collapsing relative to prior models. **This stress-test outcome confirms that confidence formation does not sustain structurally in the absence of digital engagement**. **MarTech thus emerges not as an auxiliary enhancer but as a necessary backbone that enables Brand Propensity to function as a meaningful construct.**

Key Structural Coefficients — Indicative Ranges (Cross-Model Anchors)

To provide a compact numerical reference without restating full model outputs, Table 6.5.6 summarizes the principal relationships that are most consequential across specifications (M1–M5). Values are reported as indicative ranges, emphasizing directional stability and relative magnitude rather than precise point estimates. Full coefficients and standard errors are presented in the respective model tables.

Structural Relationship	Indicative Range	Structural Role
MarTech → Brand Propensity	β ≈ **0.15–0.18** ($p < .001$)	Stable confidence-formation backbone
Brand Propensity → Branded Purchase Realization (BPR)	β ≈ **0.03–0.04** (ns)	Persistently weak conversion link
Validator Consulting → Brand Propensity	β ≈ **0.08–0.13**	Social reinforcement of confidence
Validator Switch Influence → Branded Purchase Realization (BPR)	β ≈ **0.10–0.14** (marginal, $p \approx .06–.17$)	Weak execution-stage redirection pressure
Validator Switch Influence × Brand Propensity → Branded Purchase Realization (BPR)	β ≈ **0.00–0.04** (ns)	No systematic moderation of conversion
Budget Dynamics → Branded Purchase Realization (BPR)	β ≈ **−0.12** ($p < .01$)	Dominant execution-stage constraint
Budget Dynamics × Brand Propensity → Branded Purchase Realization (BPR)	β ≈ **0.08** (marginal, $p \approx .09$)	Conditional execution-stage boundary effect
R^2 (Brand Propensity)	**~0.16 → ~0.06** when MarTech removed	Structural dependence on digital engagement

(Ranges are reported to emphasize directional stability rather than model-specific magnitudes.)

Interpretive Note for Cross-Model Anchors

Across specifications, the MarTech → Brand Propensity pathway remains the single most stable and statistically robust relationship, confirming digitally mediated information engagement as the primary engine of confidence formation.

In contrast, the Brand Propensity → Branded Purchase Realization (BPR) relationship is consistently weak and non-significant. This reinforces the study's central empirical observation that cognitive conviction—however robustly formed—does not, by itself, translate into execution-stage realization.

Validator Consulting exhibits a recurring positive association with Brand Propensity, implying that offline validators reinforce and sometimes temper confidence, but do not displace digital influence as the principal upstream driver.

Validator Switch Influence occasionally attains marginal significance in its direct effect on BPR but does not systematically moderate the conversion of Brand Propensity into realized purchase. This suggests that last-mile social redirection has limited aggregate leverage within the modeled setting.

Budget Dynamics, by contrast, displays the most stable and substantively meaningful execution-stage effect. It repeatedly constrains realized brand purchase and materially increases explained variance in BPR once introduced. The sharp decline in R^2 for Brand Propensity when MarTech is removed (Model M5) further confirms that digital engagement is a foundational structural prerequisite, rather than an optional upstream enhancer.

Model-Specific Inferential Contributions (What Each Model Established)

Within the staged analytical design, each model adds a distinct inferential refinement:

- *Model M1*
  Establishes baseline coherence in the MarTech → Brand Propensity pathway while revealing an execution-stage conversion gap, as Brand Propensity fails to significantly predict BPR.
- *Model M2*
  Demonstrates that confidence formation is socially and structurally conditioned: Validator Consulting and demographic composition shape Brand Propensity, but the Brand Propensity → BPR link remains weak.

- *Model M3*
  Introduces and tests execution-stage switching pressure. Results show that Validator-driven last-mile redirection offers only limited explanatory leverage and does not repair the weak confidence–conversion link.
- *Model M4*
  Identifies Budget Dynamics as a statistically meaningful execution-stage boundary condition. Financial feasibility significantly constrains realized purchase and materially improves model fit and explained variance in BPR.
- *Model M5*
  Functions as a negative-case stress test. Removing MarTech yields a structural collapse in Brand Propensity's explanatory basis, reinforcing the foundational role of digital cognition in enabling confidence formation.

Sequential Structural Implication

Taken together, Models M1–M5 converge on a coherent staged empirical narrative:

1. *Digital engagement reliably builds brand confidence:*
   MarTech is a stable and necessary backbone for Brand Propensity.
2. *Offline validators shape—but do not dominate—confidence:*
   Validator Consulting reinforces confidence, filtering and contextualizing digital inputs without displacing them.
3. *Brand confidence alone does not guarantee execution-stage realization:*
   The Brand Propensity → BPR pathway remains persistently weak and non-significant.
4. *Execution outcomes are constrained primarily by financial feasibility rather than cognitive conviction:*
   Budget Dynamics emerges as the dominant execution-stage boundary condition.
5. *MarTech is a necessary structural precursor for Brand Propensity to function meaningfully:*
   In its absence, the structural integrity and explanatory power of Brand Propensity deteriorate sharply.

Consistent with the study's methodological discipline, the preceding comparison establishes the pooled structural patterns observed across Models M1–M5. **However, pooled SEM estimates can mask meaningful subgroup variation, particularly in pathways linking confidence formation to execution-stage outcomes**. While the pooled models reveal a persistent structural asymmetry between Brand Propensity and Branded Purchase Realization (BPR), they do not rule out the possibility that this relationship varies across demographic segments. To examine whether the observed confidence–execution dynamics differ across respondent groups, the analysis therefore proceeds to robustness checks using Multi-Group Analysis (MGA), testing whether key structural pathways exhibit systematic heterogeneity across age, education, and income categories.

6.6 Robustness Checks: Multi-Group Analysis (MGA)

To examine whether the structural relationships observed in the pooled SEM models vary across respondent segments, additional robustness checks were conducted using Multi-Group Analysis (MGA). The pooled structural models established the overall relationships linking MarTech usage, Brand Propensity, and Branded Purchase Realization (BPR). However, the consumer population in the study comprises respondents with differing demographic characteristics, which may influence how digitally mediated engagement translates into brand confidence and realized purchase outcomes.

MGA enables the structural model to be estimated separately for predefined subgroups and allows comparison of the magnitude and direction of structural paths across those groups. The purpose of the MGA in this study is therefore to assess whether the core structural relationships remain stable across demographic segments and whether execution-stage dynamics differ across those segments.

Three demographic segmentation dimensions were examined: **age, education, and income**. These variables capture differences in life stage, capability levels, and financial context that may influence how digitally mediated engagement translates into brand confidence and realized purchase outcomes.

The MGA analysis was conducted using the **permutation-based Multi-Group Analysis procedure implemented in SmartPLS**. The permutation approach provides a conservative non-parametric test for assessing structural differences across groups because it does not rely

on distributional assumptions and evaluates whether group-specific path coefficients differ under repeated random permutations of observations across groups.

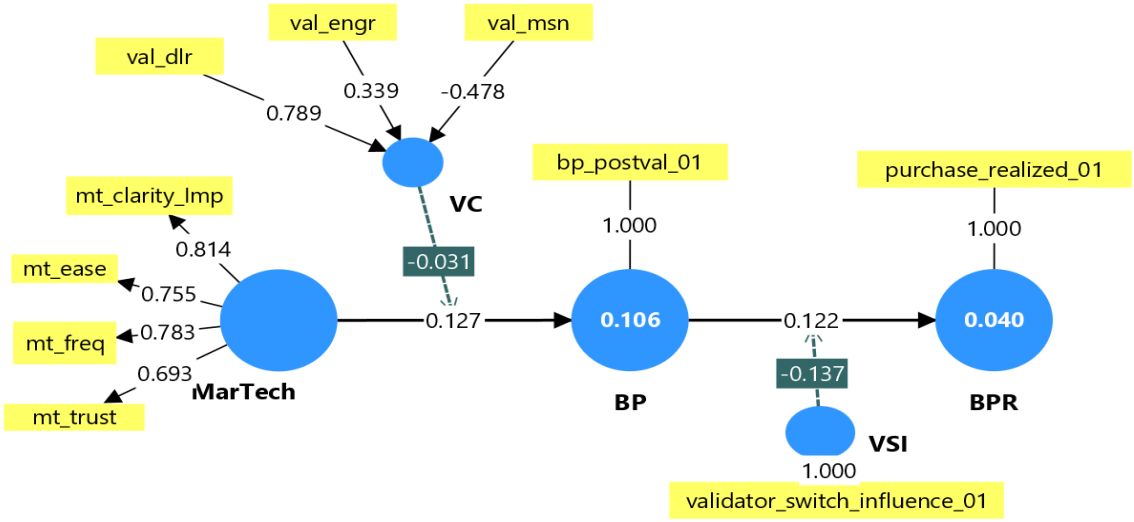
In addition to demographic segmentation, a second robustness specification introduces **Budget Dynamics** within the segmented models. This specification allows examination of whether financial feasibility influences the translation of Brand Propensity into realized purchase outcomes across demographic contexts.

The results are presented first for the demographic segmentation models and subsequently for the budget-conditioned segmented models.

6.6.1 Multi-Group Analysis by Age

To assess whether structural relationships vary across life-stage segments, the sample was divided into two age groups: respondents **younger than 35 years (n = 214)** and respondents **aged 35 years and above (n = 292)**. The structural model was estimated separately for each subgroup using the same specification employed in the pooled SEM models.

Figure 6.6.1 – MGA Structural Model: Age Segmentation



The results indicate that the **MarTech → Brand Propensity** relationship remains positive across the age segments, suggesting that digitally mediated engagement contributes to brand confidence formation irrespective of respondent age.

Within the younger segment, MarTech exhibits a positive association with Brand Propensity, explaining a modest proportion of variance in Brand Propensity. This pattern suggests that upstream digital engagement contributes to the formation of brand confidence across life-stage segments.

The **Brand Propensity → Branded Purchase Realization** pathway displays a small positive relationship in the age-segmented model, indicating that brand confidence contributes to realized purchase outcomes but with relatively limited explanatory power.

Validator-related mechanisms exhibit only marginal effects. **Validator Consulting** shows a minimal association with Brand Propensity, while **Validator Switch Influence** exhibits a weak negative moderation in the execution stage. This suggests that shifts in validator recommendations may weaken the translation of pre-existing brand predisposition into realized purchase decisions.

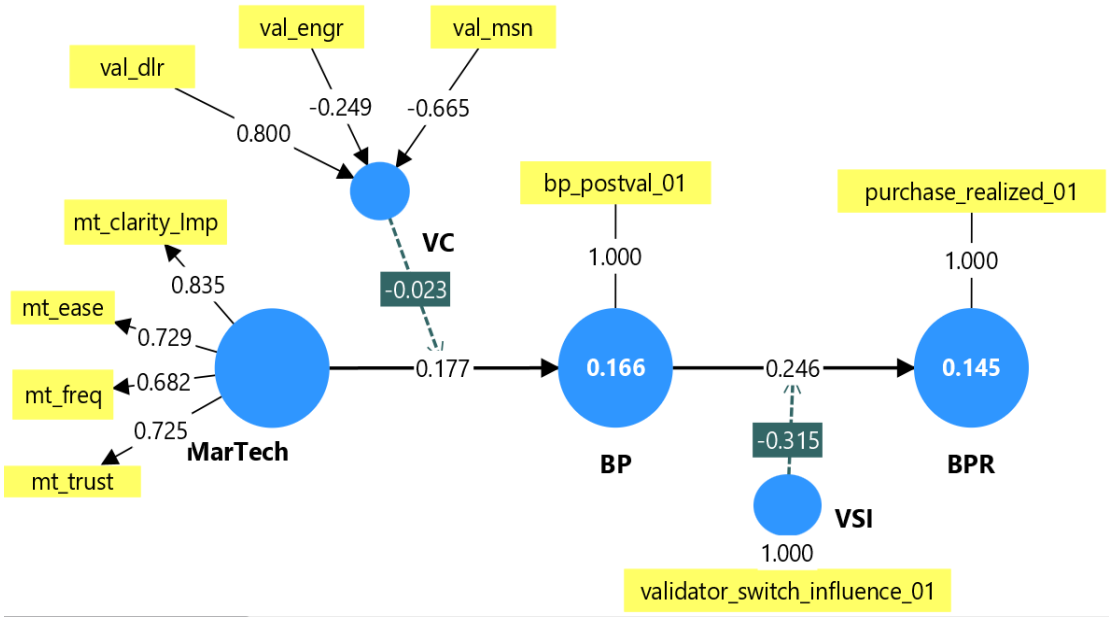
Overall, the age-segmented model indicates that the **core digital formation mechanism remains broadly stable across age groups**, while the translation of brand confidence into realized purchase outcomes remains limited.

6.6.2 Multi-Group Analysis by Education

To evaluate whether capability differences influence the structural relationships in the model, the sample was segmented based on educational attainment. Two groups were created:

• Respondents with **education below the undergraduate level (School / ITI / Diploma; n = 155)**
• Respondents with **undergraduate education or higher (n = 351)**

Figure 6.6.2 here – MGA Structural Model: Education Segmentation



The education-segmented model indicates that the **MarTech → Brand Propensity relationship remains positive across both groups** and appears stronger relative to the age segmentation results. This indicates a stronger association between MarTech engagement and Brand Propensity within the higher-education segment.

The **Brand Propensity → Branded Purchase Realization pathway** also displays a stronger positive association compared with the age-segmented model, indicating that brand confidence exhibits a stronger relationship with realized purchase outcomes within the education segmentation.

Validator-related mechanisms remain limited in magnitude. Validator Consulting exhibits only a small association with Brand Propensity, while Validator Switch Influence displays a negative moderating tendency in the execution stage.

Overall, the education segmentation indicates **stronger structural relationships compared with the age-segmented model while maintaining the same directional patterns observed in the pooled analysis**.

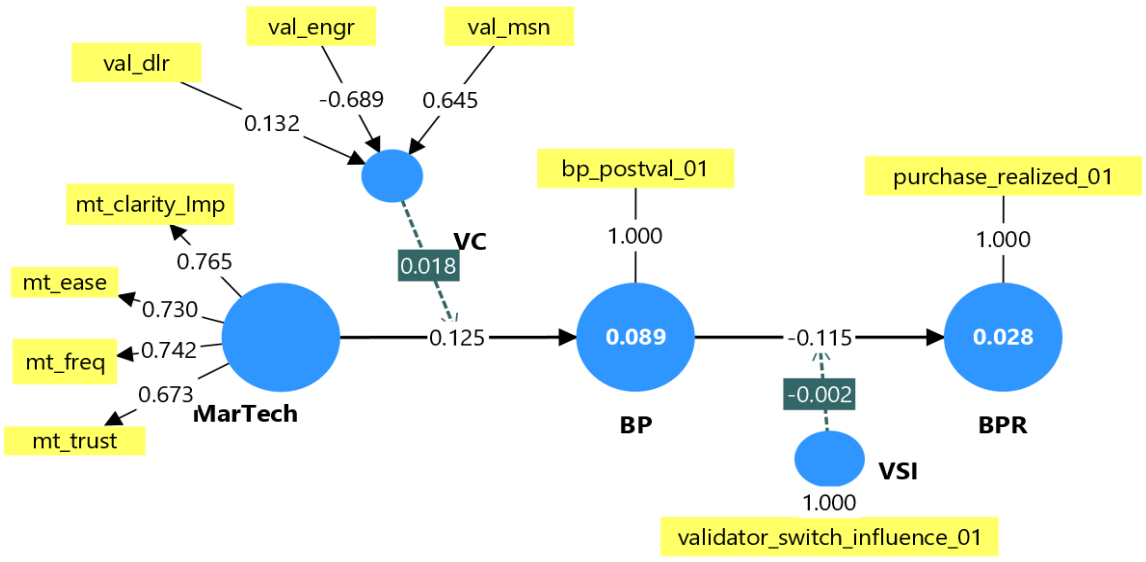
6.6.3 Multi-Group Analysis by Income

To examine whether financial capacity influences the structural relationships, the sample was segmented based on monthly household income. Two groups were created:

•Respondents with **monthly household income below ₹1 lakh (n = 234)**

• Respondents with **income equal to or greater than ₹1 lakh (n = 272)**

Figure 6.6.3 – MGA Structural Model: Income Segmentation



The income-segmented models indicate that the **MarTech → Brand Propensity relationship remains positive across both income groups**, suggesting that digitally mediated engagement contributes to brand confidence formation irrespective of income level.

However, the **Brand Propensity → Branded Purchase Realization pathway displays a weaker relationship within the income segmentation**, and the explanatory power for BPR remains limited relative to the other segmentation models.

Validator-related mechanisms show minimal structural influence within this segmentation, with Validator Switch Influence exhibiting negligible moderating effects.

Overall, the income segmentation reveals **limited structural heterogeneity**, indicating that the core formation mechanism linking MarTech engagement to Brand Propensity remains broadly consistent across income groups.

6.6.4 Budget-Conditioned Multi-Group Analysis

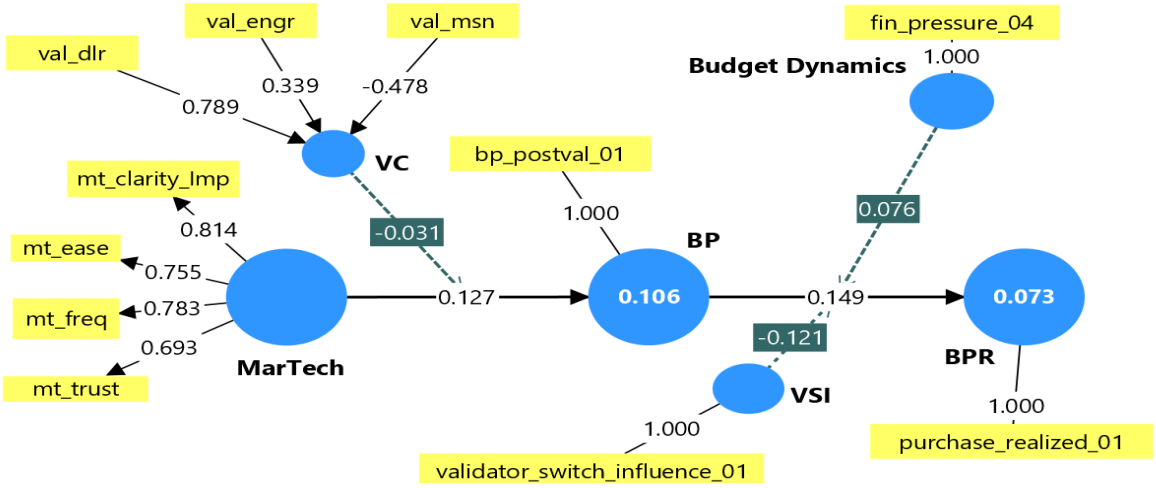
While the demographic MGA models provide insight into structural differences across respondent segments, additional models were estimated by introducing **Budget Dynamics as an additional structural variable influencing Branded Purchase Realization**.

Three additional segmented models were therefore estimated:

- Age + Budget
- Education + Budget
- Income + Budget

6.6.4.1 Age Segmentation with Budget Dynamics

Figure 6.6.4a – MGA Structural Model: Age Segmentation with Budget Dynamics

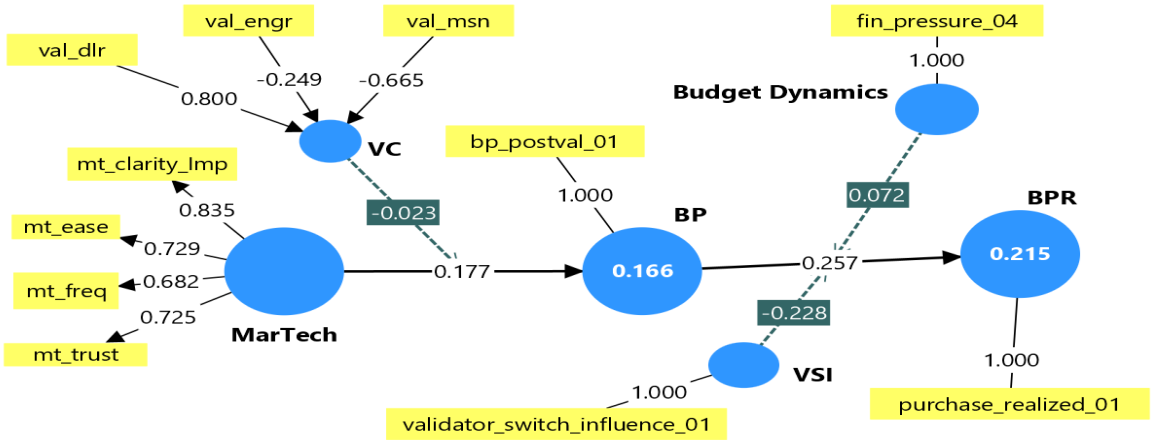


When Budget Dynamics are introduced into the age-segmented model, the explanatory power for Branded Purchase Realization increases relative to the age-only model.

The **Brand Propensity → BPR relationship remains positive**, while Budget Dynamics exhibit a modest association with realized purchase outcomes. This indicates that financial feasibility contributes to explaining purchase realization within the age-segmented model.

6.6.4.2 Education Segmentation with Budget Dynamics

Figure 6.6.4b – MGA Structural Model: Education Segmentation with Budget Dynamics

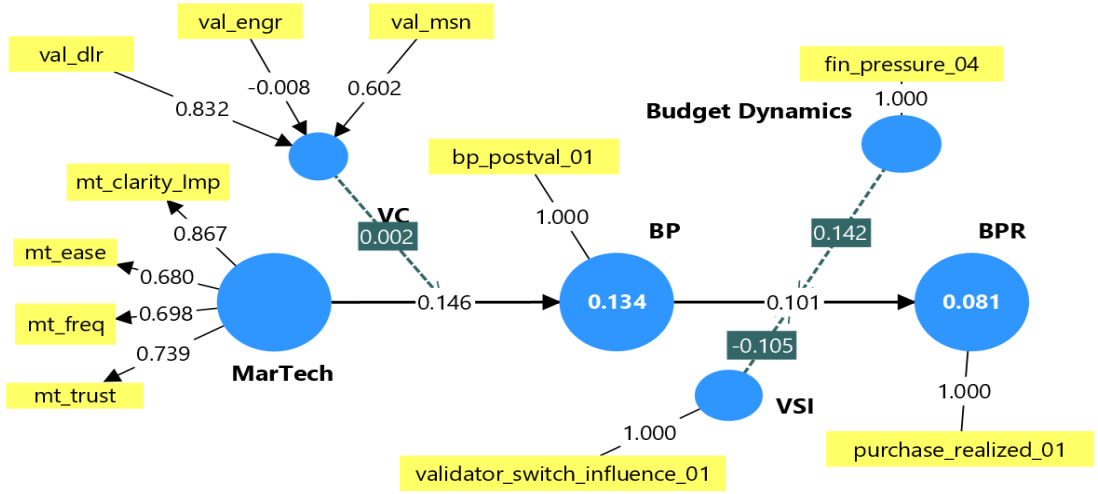


In the education-segmented model, the introduction of Budget Dynamics further increases the explanatory power of Branded Purchase Realization.

The **Brand Propensity → BPR relationship remains positive and comparatively stronger than in other segmentations**, while Budget Dynamics exhibit an additional association with realized purchase outcomes. This model displays the **highest explanatory power for BPR among the segmented specifications**.

6.6.4.3 Income Segmentation with Budget Dynamics

Figure 6.6.4c – MGA Structural Model: Income Segmentation with Budget Dynamics



When Budget Dynamics are introduced into the income-segmented model, the explanatory power for Branded Purchase Realization improves relative to the income-only model.

Budget Dynamics exhibit a noticeable association with realized purchase outcomes, while the Brand Propensity pathway remains relatively modest. This indicates that financial feasibility contributes to explaining realized purchase outcomes within the income segmentation.

6.6.5 Cross-Group Structural Comparison

To summarize the patterns observed across the Multi-Group Analysis (MGA) models, **Table 6.6.5A** presents a comparison of the principal structural relationships across the three demographic segmentations: **Age, Education, and Income**.

Table 6.6.5A – Cross-Group Structural Comparison: Demographic Segmentation Models

Segmentation	MarTech → BP	VC → BP	BP → BPR	VSI → BPR	VSI × BP → BPR	BP R^2	BPR R^2
Age	0.127	0.033	0.122	0.248	−0.137	0.106	0.040
Education	**0.177**	**0.021**	**0.246**	**0.474**	**−0.315**	**0.166**	**0.145**
Income	0.146	−0.010	0.084	0.258	−0.129	0.089	0.028

The comparison indicates that the **MarTech → Brand Propensity** relationship remains positive across all demographic segments, with coefficients ranging from **0.127 to 0.177**. The effect is strongest in the education segmentation, suggesting relatively stronger digital confidence formation within the higher-education segment.

Validator Consulting (VC → BP) displays relatively small coefficients across all demographic segments, indicating that validator consultation contributes modestly to brand confidence formation but does not represent a primary driver relative to digitally mediated engagement.

The **Brand Propensity → Branded Purchase Realization** pathway exhibits greater variation across segments. The education-segmented model shows the strongest positive relationship (**0.246**), while the age-segmented model shows a modest positive effect (**0.122**). In contrast, the income-segmented model displays a weaker relationship (**0.084**), indicating that the translation of brand confidence into realized purchase outcomes varies across demographic contexts.

Validator-related switching mechanisms display **negative interaction effects** across all three segmentations. The strongest negative effect appears in the education-segmented model (**−0.315**), while the income segmentation shows comparatively weaker influence (**−0.129**).

The explanatory power of the models also varies across segments. The **education segmentation exhibits the highest explanatory power**, with **BP R^2 = 0.166** and **BPR R^2 = 0.145**, whereas the age and income segmentations display comparatively lower explanatory power for realized purchase outcomes.

To further examine the role of financial feasibility in the execution stage, the segmented models were re-estimated with **Budget Dynamics** included as an additional structural variable influencing Branded Purchase Realization. The results are summarized in **Table 6.6.5B**.

Table 6.6.5B – Cross-Group Structural Comparison: Budget-Conditioned Segmented Models

Table 6.6.5B – Cross-Group Structural Comparison: Budget-Conditioned Segmented Models									
Segmentation	**MarTech → BP**	**VC → BP**	**BP → BPR**	**Budget Dynamics → BPR**	**Budget Dynamics × BP → BPR**	**VSI → BPR**	**VSI × BP → BPR**	**BP R^2**	**BPR R^2**
Age + Budget	0.127	0.033	0.149	−0.131	0.076	0.221	−0.121	0.106	0.073
Education + Budget	0.177	0.021	0.257	−0.156	0.072	0.378	−0.228	0.166	0.215
Income + Budget	0.146	−0.010	0.101	−0.159	0.142	0.234	−0.105	0.134	0.081

Across the budget-conditioned models, the **MarTech → Brand Propensity relationship remains positive across all segmentations**, indicating continued stability of the upstream formation mechanism.

The **Brand Propensity → BPR relationship improves modestly in the age and education models when budget dynamics are introduced**, reaching **0.149** in the age-segmented model and **0.257** in the education-segmented model. In contrast, the income-segmented model continues to display a weaker relationship (**0.101**).

Budget Dynamics interaction effects (Budget Dynamics × BP → BPR) exhibit positive coefficients across all three models, with the strongest effect appearing in the income-segmented model (**0.142**). This indicates that financial feasibility contributes to explaining realized purchase outcomes particularly within the income segmentation.

Validator Switch Influence interaction effects (VSI × BP → BPR) continue to display negative coefficients across the budget-conditioned models, although the magnitude varies across segments.

The explanatory power of the models for realized purchase outcomes improves when **Budget Dynamics** are introduced. The **education-segmented model with budget dynamics displays the highest explanatory power (BPR $R^2 = 0.215$)**.

Overall, the MGA comparison indicates that the **MarTech-driven confidence formation mechanism remains consistent across demographic segments**, while the magnitude of execution-stage relationships varies across segmentation contexts. The introduction of **Budget Dynamics improves the explanatory power of realized purchase outcomes**, suggesting that

financial feasibility conditions play a greater role in the **execution stage** than in the upstream formation of brand propensity.

6.6.6 Interpretation of Demographic Heterogeneity

The multi-group analysis reveals meaningful variation in the strength of structural relationships across demographic segments, particularly across education and income categories. *While the core structure of the model remains stable across groups, the magnitude of several relationships differs, providing insight into how digital engagement and validator influence operate across different consumer profiles.*

First, the relationship between **MarTech engagement and Brand Propensity** remains positive across all demographic groups. This consistency reinforces the central premise of the study that digitally mediated information engagement contributes to the formation of consumer confidence toward specific brands. **However, the magnitude of this relationship is somewhat stronger among more educated respondents.** This pattern suggests that individuals with higher educational exposure may be more capable of independently processing digital information and converting that information into brand-level confidence. *In contrast, consumers with lower educational exposure may rely relatively more on interpersonal validation during the decision process.*

Second, the relationship between **Validator Consultation and Brand Propensity** remains relatively weak across all demographic segments. The consistently low magnitude of this path suggests that ***validators do not primarily function as creators of brand preference during the early stages of the decision process***. Instead, their role appears to be more closely associated with later-stage verification and execution support, rather than with the formation of brand predisposition itself.

Third, the **Brand Propensity → Branded Purchase Realization** relationship shows variation across demographic groups. The effect is stronger in the education-based segmentation relative to the age and income segmentations. **This pattern indicates that when consumers possess stronger cognitive capacity to process information and develop brand confidence, their predisposition translates more effectively into realized branded purchase behavior.**

Fourth, the relationship between **Validator Support Intensity and Branded Purchase Realization** remains the most stable and consistently strong across demographic groups. This finding reinforces the institutional role played by validators in technical and safety-critical

purchase environments such as building materials. While digital engagement may influence consumer predisposition upstream, **the execution of the final purchase decision appears to remain dependent on offline validators who provide technical legitimacy and implementation guidance.**

Finally, the interaction effect between **Validator Support Intensity and Brand Propensity** remains negative across all demographic segments. **This negative interaction suggests that the incremental contribution of validators decreases when consumers already possess strong brand confidence. In other words, when digital engagement has already generated high predisposition toward a specific brand, the marginal influence of validators in shaping the final purchase outcome becomes smaller.** Conversely, when consumer predisposition is weaker, validators play a more critical role in stabilizing the execution of the purchase decision.

Taken together, the demographic segmentation results indicate that while **the structural logic of the model remains stable across consumer groups, the relative strength of formation and execution mechanisms varies depending on consumer characteristics.** Digital engagement contributes consistently to brand predisposition, but the translation of predisposition into realized purchase behavior remains mediated by institutional validators within the traditional channel ecosystem.

6.6.7 Final Model After ABCD Diagnostics and MGA

The original hypothesis set (H1–H5) in Chapter 3 emerged from the ABC stages of the research design, translating the lived journey into a mediated pathway from MarTech Usage to Brand Propensity and Branded Purchase Realization, with demographic characteristics and validator roles treated as contextual influences. Stage C OLS analysis provided directional support for this structure but, because it relied on indexed representations of validator influence and demographic variation, it produced a smoother picture of execution than was evident in the field, suggesting that heterogeneity in institutional governance and feasibility constraints was being partially masked.

Stage D was therefore designed to re-examine this mediated mechanism using a substantially larger and more heterogeneous sample—approximately four times the minimum size suggested by power analysis—and to separate formation and execution influences more clearly. In the pooled SEM models, the formation leg from MarTech to Brand Propensity (H1) remained

consistently strong, while the execution leg from Brand Propensity to BPR (H2) appeared weaker and less stable, indicating that positive and negative execution forces were being aggregated and partially cancelling each other. To address this, demographic variables were elevated from equation-level controls to segment-level filters through multi-group analysis, operationalising H4 as a set of segmental comparisons rather than single-equation interaction terms. **The MGA results show that both formation and execution legs are materially stronger in higher-education and higher-income segments than in other groups, so in the final model Demographics are treated as a segment-level conditioner spanning both legs rather than as a simple path-level moderator.**

At the same time, the diagnostic and structural results reinforced the asymmetry between validators' roles in formation and execution, sharpening the interpretation of the validator-related hypotheses from Chapter 3. Validator Consulting during evaluation exerts only a modest influence on Brand Propensity relative to MarTech, consistent with evidence that consumers primarily use validators for reassurance and clarification rather than as originators of brand preference. This upstream contribution is captured in the final model as an operational extension, H6, which treats Validator Consulting as a secondary influence on the formation leg MarTech → Brand Propensity. In contrast, Validator Switch Influence at execution (H5) exerts a strong effect on BPR, and the negative interaction with Brand Propensity indicates that validators are most decisive when consumer confidence is weak, while their marginal influence declines when digital engagement has already generated strong predisposition. **Accordingly, the final model positions Validator Switch Influence as a primary governor of the execution leg Brand Propensity → BPR.**

Field observation and behavioural-economics insights further suggested that financial feasibility and mental budgeting play an independent role in shaping execution outcomes. To capture this, Stage D introduced Budget Dynamics as a late-stage moderator of the Brand Propensity → BPR relationship, formalised as H7. The budget-augmented SEM and MGA models show that **Budget Dynamics meaningfully increase the explanatory power for realised purchase outcomes, particularly in income-based segmentations, and can constrain realisation even when Brand Propensity is high.** This pattern aligns with the lived journey in which even confident and well-informed consumers adjust or redirect branded choices when confronted with binding budget envelopes near purchase. The final model therefore treats Budget Dynamics as a financial conditioning force on the execution leg, operating alongside validator governance.

Taken together, the final model consolidates the mediated MarTech → Brand Propensity → BPR mechanism (H1–H3) developed in Chapter 3 with segment-level demographic filtering (H4), differentiated validator roles in formation and execution (H5 and the operational extension H6), and budget-related feasibility constraints at the point of realisation (H7). It represents the analytical culmination of the ABCD design: early stages established the core mechanism, intermediate diagnostics revealed where indices and pooling masked heterogeneity, and Stage D SEM and multi-group analyses clarified the conditions under which digitally formed Brand Propensity is carried through to realised branded purchase or leaks at execution. Figure **6.6.6.A** depicts this final structural model, and Table **6.6.6.B** below summarises how the research questions and hypotheses map onto this specification.

Figure 6.6.6.A – Final Structural Model

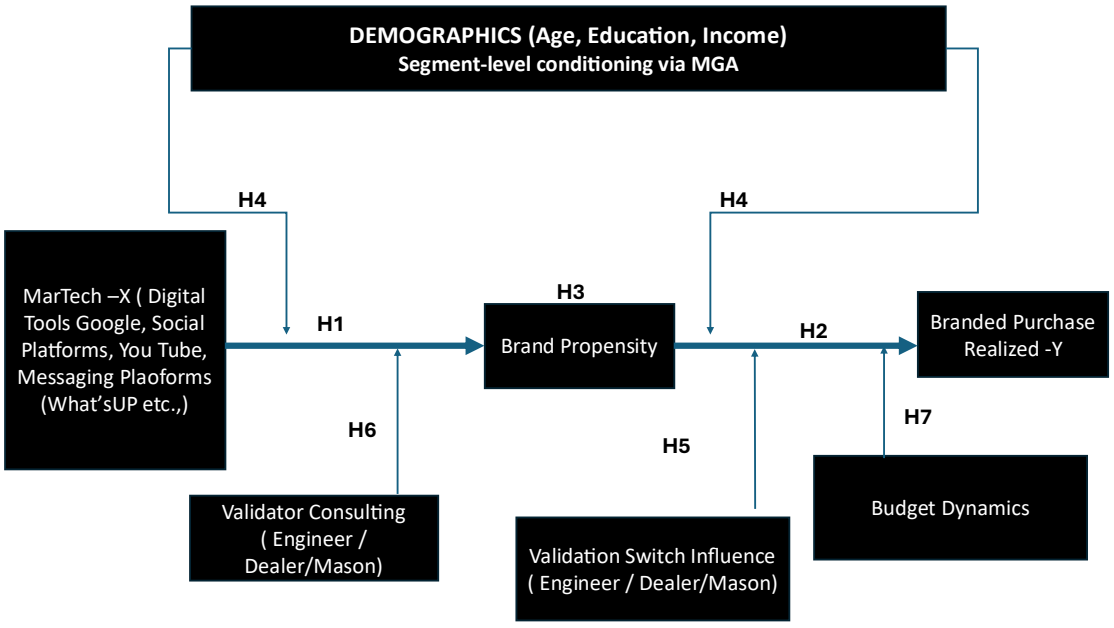


Table 6.6.6.B: Research Questions, Hypotheses, and Data-Based Conditioning (Final SEM and MGA Models)

Table 6.6.6.B: Research Questions, Hypotheses, and Data-Based Conditioning (Final SEM and MGA Models)				
Original hypotheses from Chapter 3 (H1–H5)				
RQ / H	Focal relationship	Empirical status (Stage D / MGA)	Direction from data	Remarks / conditions
RQ1 / H1	MarTech → Brand Propensity (BP)	Core SEM models and MGA segmentations	Positive and stable across segments	Confirms formation leg: MarTech-enabled digital engagement consistently strengthens BP; effect is strongest in higher-education groups.
RQ2 / H2	BP → Branded Purchase Realization (BPR)	Core SEM models; stronger in budget-augmented and education-based MGA models	Positive; magnitude varies by segment and budget context	Execution leg: higher BP increases likelihood of BPR, but strength depends on validator support and budget feasibility; strongest in higher-education, weakest in lower-income segments.
RQ3 / H3	MarTech → BP → BPR (indirect effect)	Indirect effects in SEM, assessed across MGA models	Supported; direct MarTech → BPR weak	MarTech operates primarily through confidence formation: realised purchase is shaped via BP rather than through a strong direct path from MarTech to BPR.
RQ4 / H4	Demographics as segment-level filters on both legs	MGA cross-group comparisons	Conditional: both legs differ across segments	Demographics act as upstream filters: higher education and income strengthen both legs; lower education/income show weaker legs and greater dependence on validators and budget.
RQ5 / H5	Validator Switch Influence × (BP → BPR)	SEM and MGA with Validator Switch Influence(VSI) interaction	Negative interaction with BP; strong validator main effect	Validators act as execution-stage governors. VSI strongly supports BPR, but BP×VSI is negative, indicating validators matter most when BP is low.
Operational extensions from Stage D (H6–H7)				
H6	Validator Consulting → BP	SEM path VC → BP and MGA diagnostics	Small, mixed but generally positive	Validator Consulting provides modest additional contribution to BP relative to MarTech, especially for lower-education / lower-income consumers, reinforcing its role as secondary in formation.
H7	Budget Dynamics × (BP → BPR)	Budget-conditioned SEM and MGA	Attenuating / shaping effect at execution; Budget → BPR positive	Budget Dynamics increase BPR explanatory power and can constrain realisation even when BP is high; financial feasibility and mental accounting help explain leakage between strong predisposition and realised purchase.

6.7 Summary of Empirical Findings

This chapter presented the empirical results of the study through a multi-stage analytical approach combining preliminary diagnostic analysis, structural modeling, and demographic segmentation. The objective of the empirical analysis was to examine how digitally mediated information engagement influences consumer brand predisposition and how this predisposition translates into realized branded purchase behavior in the context of individual house building.

The empirical investigation proceeded in multiple stages. First, the preliminary diagnostic analysis provided directional evidence on the relationships among the key constructs. These results established that digital engagement variables were positively associated with the formation of consumer brand predisposition. At the same time, the analysis also indicated that

the final purchase realization in the building materials category remained influenced by validator involvement during the execution stage of the decision process.

Building on these initial findings, the structural model analysis examined the relationships among the principal constructs of the study. The results confirmed that **MarTech engagement contributes positively to the formation of Brand Propensity**, supporting the argument that consumers increasingly develop brand confidence through digitally mediated information search and evaluation. This finding is consistent with prior research demonstrating that digital information environments expand consumer knowledge, increase perceived control over decision processes, and facilitate independent evaluation of alternatives.

At the same time, the structural model revealed that **Validator Consultation plays a relatively limited role in shaping Brand Propensity directly.** This result suggests that validators do not primarily influence the upstream formation of brand preference. Instead, their role appears to be more closely associated with later stages of the purchase process where technical validation and implementation support become critical.

The results further demonstrate that **Brand Propensity positively influences Branded Purchase Realization**, indicating that consumers who develop stronger confidence toward specific brands are more likely to translate that predisposition into actual purchase outcomes. This finding reinforces the importance of the cognitive confidence formation stage in the consumer decision process.

However, the analysis also reveals that **Validator Support Intensity exerts a strong positive influence on Branded Purchase Realization.** This relationship highlights the continued relevance of offline institutional actors in technical purchase environments. In categories such as building materials, where product performance has long-term structural and safety implications, validators such as engineers, masons, and experienced dealers continue to play an important role in legitimizing and facilitating the final purchase decision.

In addition, the interaction analysis shows that the **interaction between Validator Support Intensity and Brand Propensity is negative**, indicating that validator influence becomes less critical when consumers already possess strong brand predisposition. In other words, as consumers develop stronger confidence through digital information engagement, the marginal contribution of validators in shaping the final purchase outcome declines.

Finally, the multi-group analysis demonstrates that while the overall structural relationships remain broadly stable across demographic segments, the magnitude of these relationships varies across education, age, and income categories. In particular, the influence of **MarTech engagement** on brand predisposition tends to be **stronger among more educated consumers,** suggesting that digital information processing capabilities may enhance the formation of consumer confidence. At the same time, **validator support remains important across all demographic groups, reinforcing the institutional role of validators in the execution stage of technical purchase decisions.**

Taken together, the empirical findings reveal a **two-stage structure of consumer decision-making in the building materials category.** The formation of brand predisposition increasingly occurs through digitally mediated information engagement, while the execution of the final purchase decision continues to be supported and legitimized by institutional validators embedded within the traditional distribution channel.

The next chapter builds on these empirical findings to interpret their theoretical implications, situate them within the broader literature on digital consumer behavior and omnichannel decision processes, and discuss their implications for marketing strategy, channel management, and consumer empowerment in digitally transforming legacy industries.

Chapter 7 : Discussion

7.1 Reinterpreting the Consumer Journey in High-Physicality Categories

The empirical findings presented in Chapter 6 provide new insight into how consumer decision processes unfold in categories characterized by high physicality, technical complexity, and irreversible consequences. While prior research has extensively examined the role of digital technologies in shaping consumer journeys, the results of this study suggest that digital engagement primarily operates at the level of confidence formation, rather than serving as a direct mechanism of transaction realization. These patterns are summarized in the final structural model presented in Figure 6.6.6.A and Table 6.6.6.B.

Across the analyses conducted in this research, a consistent pattern emerges. Consumer engagement with digital tools—captured in this study through MarTech usage—significantly contributes to the formation of **Brand Propensity**, a confidence-oriented cognitive state in which consumers develop readiness toward a particular brand. Through engagement with search engines, online videos, manufacturer websites, digital communities, and messaging platforms, consumers independently gather information, compare alternatives, and progressively narrow their consideration sets. Over time, these interactions enable consumers to arrive at offline marketplaces with a pre-formed orientation toward specific brands.

However, the empirical evidence indicates that this digitally formed confidence does not automatically translate into realized purchase behavior. Instead, the execution of the purchase decision remains embedded within networks of institutional actors and contextual constraints. Engineers, masons, and retail dealers—captured in the empirical models as validators—continue to play a decisive role when brand preference must be translated into physical purchase and installation.

This pattern reveals a structural distinction within the consumer journey. Digital engagement shapes the **formation stage** of decision making by enabling consumers to develop informed brand inclinations. In contrast, the **execution stage** remains governed by institutional actors who validate feasibility, ensure technical compatibility, and coordinate the practical realization of the purchase.

Thus, digital technologies primarily structure consumer cognition upstream, while institutional validators govern execution downstream.

This distinction provides an important refinement to existing consumer journey theory. **Much of the omnichannel literature assumes that digital engagement collapses the boundary between evaluation and purchase, allowing consumers to move seamlessly from exploration to transaction within integrated digital ecosystems.** While such a model may hold in categories where products can be evaluated and delivered digitally, **the findings of this study suggest that the logic differs substantially in high-physicality categories such as building materials.**

In these contexts, digital technologies empower consumers by expanding access to information and enabling independent evaluation. Yet the final transaction remains anchored in offline environments where technical expertise, physical inspection, logistics coordination, and financial feasibility determine execution outcomes.

Consequently, digital influence shapes **what consumers believe**, while institutional structures determine **what consumers ultimately execute**.

Recognizing this distinction allows two seemingly contradictory observations in contemporary markets to be reconciled. On the one hand, consumers appear increasingly informed and digitally empowered. On the other hand, traditional intermediaries such as engineers, masons, and dealers continue to retain influence over final purchase decisions. **The findings of this study suggest that these observations are not contradictory but complementary.** Digital engagement reconfigures the **stage at which influence occurs**, rather than eliminating intermediaries altogether.

Consumers arrive at the marketplace with stronger preliminary preferences, yet they continue to rely on validators to confirm technical suitability and execution feasibility. As a result, digital engagement alters the **distribution of influence across stages of the decision process**, rather than replacing institutional actors entirely.

Taken together, these findings support the central proposition of this dissertation: **consumer decision processes in high-physicality markets are best understood as a two-stage structure in which digital engagement drives upstream confidence formation, while institutional actors govern downstream purchase realization.**

7.2 Theoretical Contribution: Formation–Execution Asymmetry

The primary theoretical contribution of this study lies in identifying and empirically substantiating a distinction between two analytically separable phases of consumer decision making: **confidence formation and purchase execution**.

Existing marketing and consumer behavior literature has extensively examined information search, preference construction, and omnichannel consumer journeys. However, these streams often treat preference formation and purchase realization as parts of a continuous process. **The findings of this study suggest that** in many real-world contexts—particularly those involving technical products and physical infrastructure—**the mechanisms governing preference formation and purchase realization differ substantially.**

The results indicate that digital engagement primarily functions as a mechanism of **confidence formation**. Consumers use digital platforms to gather information, compare alternatives, and progressively stabilize their understanding of available brands. Through repeated engagement with digital information environments, consumers develop a sense of readiness and assurance regarding a particular brand.

This internally stabilized confidence state is conceptualized in this study as **Brand Propensity**.

Brand Propensity captures the cognitive resolution that occurs when consumers feel sufficiently informed and justified in favoring a particular brand prior to engaging in the final act of purchase. Unlike traditional constructs such as attitude or purchase intention, **Brand Propensity reflects a pre-execution confidence state formed through digital exploration and evaluation.**

Importantly, the empirical results demonstrate that the existence of this confidence state does not guarantee purchase realization. Instead, the translation of Brand Propensity into **Branded Purchase Realization (BPR)** remains conditioned by institutional actors and contextual constraints operating at the execution stage.

Validators such as engineers, masons, and retail dealers function as gatekeepers who confirm technical suitability, assess practical feasibility, and coordinate implementation. Financial constraints, availability conditions, and contextual disturbances may also intervene at this stage, occasionally redirecting execution even when strong brand predispositions exist.

This pattern reveals a systematic **formation–execution asymmetry** within the consumer journey. Digital engagement significantly shapes how consumers think about brands and construct their preferences upstream, but the realization of these preferences remains governed by offline institutional mechanisms downstream.

The asymmetry lies not in the absence of digital influence, but in the stage at which that influence operates. Digital engagement contributes primarily to **cognitive stabilization**, while execution remains contingent on external validation and feasibility constraints.

This distinction extends several streams of existing literature. **Adaptive decision-making research has shown that consumer preferences are often constructed during the evaluation process (Bettman et al., 1998)**. Customer journey research highlights that consumers interact with multiple touchpoints across the decision process (Lemon & Verhoef, 2016). **However, these frameworks rarely distinguish explicitly between the mechanisms that stabilize preferences and those that govern purchase realization.**

The formation–execution asymmetry proposed in this study clarifies this relationship by demonstrating that preference stabilization and purchase realization may be governed by different actors and processes.

The findings also contribute to **omnichannel and digital marketing research by highlighting an important boundary condition to the commonly assumed convergence** between digital exploration and digital transaction. In categories characterized by digital fulfillment, consumers may move seamlessly from search to purchase within integrated digital ecosystems. In contrast, in high-physicality categories such as building materials, digital technologies primarily enable consumers to develop informed preferences rather than to complete transactions directly.

In these contexts, digital tools enhance informational empowerment without displacing the institutional actors responsible for implementation. Consumers arrive at the marketplace more informed and more confident about their choices, yet they continue to rely on validators to ensure that decisions can be executed safely and effectively.

Thus, digital engagement reshapes the **structure of influence across stages of the consumer journey**, rather than eliminating intermediaries altogether.

Finally, the findings also contribute to research on digital behavior in emerging markets and GREAT contexts. **Prior work has suggested that digital signals may operate differently in**

non-WEIRD environments where institutional structures and market participation patterns vary (Karhade & Kathuria, 2020). The results of this study provide empirical support for this view. Digital engagement strongly shapes consumer cognition, yet institutional actors retain authority over final purchase realization.

Rather than replacing intermediaries, **digital technologies coexist with** them, producing **hybrid decision structures** in which cognitive empowerment and institutional governance operate simultaneously.

7.3 Digital Empowerment and Institutional Governance

A second insight emerging from the findings concerns the coexistence of consumer empowerment and institutional authority within digitally mediated decision environments.

Digital technologies have dramatically reduced information asymmetries, enabling consumers to access detailed product information, compare alternatives, and engage with peer discussions. As a result, consumers often arrive at marketplaces with higher levels of preparedness and awareness than in earlier periods when information access was limited.

However, the results of this study indicate that informational empowerment does not eliminate the role of institutional actors in complex purchase environments. Instead, digital technologies shift the **nature of interaction between consumers and intermediaries**.

Rather than serving primarily as information providers, validators increasingly function as execution authorities. Engineers, masons, and dealers are consulted not to initiate brand awareness but to confirm feasibility, validate technical suitability, and coordinate the physical realization of the purchase decision.

This shift suggests that digital technologies alter the **division of labor within the marketplace**. Consumers take greater responsibility for early-stage evaluation, while institutional actors retain authority over implementation and execution.

In this sense, digital empowerment and institutional governance coexist rather than compete. Digital tools strengthen consumer cognition, while institutional actors continue to ensure that decisions are compatible with physical and technical constraints.

Such hybrid structures are likely to be particularly prevalent in categories characterized by technical complexity, high financial stakes, and irreversible outcomes.

7.4 Heterogeneity in Digital Engagement

The multi-group analyses presented in Chapter 6 reveal that the influence of digital engagement varies across demographic groups. In particular, the relationship between MarTech usage and Brand Propensity tends to be stronger among consumers with higher levels of education.

This finding suggests that digital engagement does not operate uniformly across populations. Consumers differ in their ability to interpret digital information, evaluate competing claims, and integrate information across sources. For some individuals, digital environments facilitate deep evaluation and confidence formation. For others, engagement may remain superficial or fragmented.

These differences highlight the importance of viewing digital engagement as a **continuum rather than a binary condition**. Consumers vary not only in whether they use digital tools but also in how effectively they translate digital exposure into decision confidence.

Recognizing this heterogeneity is important for understanding why digital influence may produce different outcomes across consumers exposed to similar informational environments.

7.5 Boundary Conditions of the Findings

While the findings of this study provide insight into digitally mediated decision processes, they should be interpreted within the context of the empirical setting in which the research was conducted.

First, the study focuses on the building materials category, which is characterized by high physicality, technical complexity, and irreversible outcomes. In such contexts, digital technologies are unlikely to fully replace physical validation and institutional coordination.

Second, the decision environment examined in this research involves individual house builders operating within traditional distribution channels. These markets are characterized by strong networks of professional and informal intermediaries whose influence remains embedded within the purchase process.

Third, the findings reflect decision processes in an emerging market context, where digital infrastructure coexists with institutional structures that may differ from those found in more digitally integrated retail environments.

Consequently, while the formation–execution asymmetry identified in this study may apply to other high-involvement categories such as construction materials, automobiles, or certain healthcare decisions, its applicability may be limited in categories where products can be fully evaluated and delivered through digital platforms.

Future research should therefore examine whether similar asymmetries emerge in other contexts characterized by high physicality, institutional intermediation, and irreversible outcomes.

This chapter interpreted the empirical findings of the study within the broader literature on consumer decision making, digital engagement, and omnichannel markets. The discussion highlighted that digital engagement primarily shapes **confidence formation**, enabling consumers to develop stabilized brand preferences through independent exploration.

At the same time, the execution of purchase decisions remains governed by institutional actors and contextual constraints operating within offline environments. This pattern reveals a systematic **formation–execution asymmetry** in digitally mediated consumer journeys.

By distinguishing between cognitive preference formation and institutional execution governance, the study offers a new perspective on how digital influence operates in high-physicality categories. Rather than collapsing the consumer journey into a seamless digital pathway, digital technologies reshape the distribution of influence across stages of the decision process while leaving institutional execution mechanisms intact.

The next chapter builds on these insights to outline the managerial implications, policy relevance, and future research directions arising from the formation–execution asymmetry identified in this study.

7.6 Chapter Summary

This chapter interpreted the empirical findings of the study within the broader literature on consumer decision making, digital engagement, and omnichannel markets. The discussion highlighted that digital engagement primarily shapes **confidence formation**, enabling consumers to develop stabilized brand preferences through independent exploration.

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Chapter 8: Implications, Limitations, and Future Research

8.1 Introduction

This dissertation examined how digital engagement influences consumer decision-making in markets characterized by high physicality, technical complexity, and irreversible outcomes. Focusing on the context of individual house building within the building materials sector, the study investigated how consumers use digital technologies to gather information, develop confidence in specific brands, and translate that confidence into realized purchases within institutional market environments.

The empirical analyses revealed that digital engagement significantly contributes to the formation of consumer confidence toward brands, conceptualized in this study as **Brand Propensity**. Consumers increasingly use digital tools to search for information, compare alternatives, and develop preliminary preferences before interacting with retail channels or professional intermediaries.

However, the findings also demonstrate that the realization of purchase decisions remains governed by institutional actors and contextual constraints operating within the physical execution environment. Engineers, masons, and retail dealers continue to play an important role in validating technical feasibility, ensuring compatibility with structural requirements, and coordinating the physical implementation of purchase decisions.

These results indicate that digital engagement operates primarily at the stage of **confidence formation**, while purchase execution remains embedded within institutional systems responsible for validation and implementation. The resulting **formation–execution asymmetry** provides a new lens for understanding how digital transformation unfolds in markets where physical infrastructure, expert validation, and coordinated execution remain central to the transaction process.

Building on the theoretical insights developed in the preceding chapters, this chapter outlines the broader implications of the study. The chapter discusses implications for **managers**, **policymakers**, and **researchers**, and concludes with reflections on the **limitations** of the study and **directions for future research**.

8.2 Managerial Implications

8.2.1 Digital Platforms as Confidence-Building Infrastructure

The findings of this study suggest that digital engagement plays a central role in shaping consumer confidence during the early stages of the decision journey. Consumers increasingly rely on digital platforms to understand product characteristics, compare alternatives, and narrow their consideration sets before visiting retail outlets.

For firms operating in high-physicality categories such as building materials, digital platforms should therefore be viewed primarily as **confidence-building infrastructures** rather than merely as promotional communication channels.

Manufacturers can strengthen consumer confidence by providing structured and technically credible information through digital channels. Product demonstrations, installation tutorials, performance comparisons, engineering explanations, and long-term durability evidence can help consumers evaluate alternatives and reduce uncertainty prior to engaging with physical marketplaces.

In this sense, digital engagement contributes to **pre-purchase cognitive stabilization**, enabling consumers to approach retail channels with clearer preferences and higher levels of preparedness.

8.2.2 Aligning Digital Engagement with Validator Networks

A second managerial implication concerns the continued importance of institutional validators within the purchase process. Engineers, masons, and dealers remain critical actors in the execution stage of building material purchases. These actors validate structural suitability, coordinate installation, and ensure compatibility with project requirements.

Rather than viewing digital engagement as a substitute for these actors, firms may benefit from treating digital platforms and validator networks as **complementary mechanisms**.

Digital platforms can provide technical documentation, installation guidelines, and product training resources that strengthen the informational capabilities of validators. In doing so, firms can align digital consumer confidence with professional validation during the execution stage of the decision process.

Such alignment may reduce friction between consumer preferences formed through digital exploration and the recommendations provided by professionals responsible for implementation.

8.2.3 Facilitating the Transition from Confidence to Execution

The findings indicate that strong brand confidence does not always translate into realized purchases. Financial feasibility, material availability, and contextual constraints may intervene between preference formation and purchase execution.

Managers may therefore benefit from developing mechanisms that help consumers transition from confidence to execution more smoothly. Examples include improving product availability within dealer networks, offering transparent pricing information, supporting credit access through financial partnerships, and providing structured guidance on installation and application.

By reducing uncertainties associated with execution, firms may increase the likelihood that digitally formed preferences translate into realized purchases.

8.3 Institutional Transparency and Market Simplification: Lessons from the Automotive Sector

An instructive comparison for understanding the institutional dynamics observed in this study can be drawn from the evolution of the automotive sector in India over the past two decades. During this period, automotive markets have been reshaped by the joint effects of regulatory standardization, information transparency, and platform-driven intermediation.

Regulatory frameworks addressing emissions, fuel efficiency, and vehicle safety have introduced common performance benchmarks that discipline manufacturer claims and make technical attributes directly comparable for consumers. Emissions regulations such as Bharat Stage norms and Real Driving Emissions requirements ensure that stated performance is validated through standardized tests, while Corporate Average Fuel Economy standards create transparent efficiency targets across brands. Safety initiatives such as the Bharat New Car Assessment Programme (Bharat NCAP) further strengthen transparency by publicly reporting crash performance ratings using a simple star-rating system.

In parallel, digital automotive platforms have progressively constructed a **webroom** environment in which much of the search, screening, and preliminary evaluation

is completed before any physical dealer interaction. Comparison-oriented portals such as CarDekho and CarWale enable consumers to configure, filter, and benchmark vehicles across multiple dimensions including price, segment, safety ratings, fuel efficiency, ownership costs, and peer reviews, while aggregating news, expert opinions, and product updates in one place. These platforms reduce reliance on individual dealer narratives by providing standardized specifications, on-road price estimates, consumer reviews, and editorial content that make cross-brand comparison more tractable.

Empirical work on consumer search in the automotive category similarly shows that the Internet has shifted information acquisition away from dealer-centric sources toward online tools and platforms, thereby altering how consumers structure pre-purchase evaluation in high-involvement settings.

Alongside these research-oriented portals, certain full-stack used-car platforms provide a useful illustration of how digital intermediaries can compress the distance between confidence formation and execution.

Platforms in this category assume responsibility for multiple stages of the transaction by procuring vehicles, applying standardized multi-point inspections, refurbishing inventory within their own facilities, and selling directly to consumers with fixed pricing, warranties, and after-sales support.

One such example is Spinny, which combines online discovery, inspection reports, financing options, and structured return policies with large experiential hubs (for instance, its multi-acre “park” format in Bengaluru) where buyers can inspect and test-drive a wide assortment of certified vehicles in a single location. In effect, these full-stack models extend the webroom into a curated showroom environment while retaining platform-level control over quality, pricing, and process, thereby reducing the need for fragmented, dealer-specific negotiation at the execution stage.

Recent policy and industry initiatives around end-of-life vehicle scrappage further underline the forward-looking character of the automotive sector. India’s vehicle scrappage policy and related steel scrap recycling frameworks are promoting formal Registered Vehicle Scrapping Facilities, with major OEMs such as Tata Motors investing in advanced scrappage centres that safely dismantle vehicles and channel recovered materials back into steelmaking and other industrial uses.

These initiatives create additional choice architectures for consumers at the end of the ownership cycle and support environmental objectives by embedding circular-economy logics into the sector's material flows.

Together, regulatory transparency, digital platforms, and emerging circular-economy infrastructures have transformed the automotive consumer journey from a dealer-dominated, persuasion-intensive process into a more structured, institutionally governed funnel.

A substantial portion of preference formation now occurs within the digital ecosystem, where consumers can refine their consideration sets, compare technically validated attributes, and often arrange financing and warranties before entering a dealership or experiential hub.

In this setting, the formation–execution asymmetry is compressed: the same institutional infrastructures that support confidence formation—regulatory benchmarks, platform standards, and full-stack intermediaries—also govern a large part of purchase execution.

In contrast, the building materials sector has not yet experienced a comparable degree of institutional transparency or platform-based process integration. While emerging digital platforms increasingly provide information about construction materials, the absence of widely adopted performance benchmarks, standardized durability ratings, and recognized certification frameworks means that information comparability remains limited. As a result, consumers continue to rely heavily on validators such as engineers, masons, and dealers to interpret technical claims, assess structural suitability, and coordinate implementation at the site level.

The automotive example therefore illustrates how regulatory institutions, digital platforms, and full-stack intermediaries can collectively simplify consumer decision-making, align confidence formation with execution mechanisms, and reduce dependence on dispersed, validator-driven intermediation. By comparison, in high-physicality categories such as building materials, digital engagement currently operates primarily as a confidence-building layer that precedes, rather than replaces, institutionally governed execution. This contrast reinforces the central argument of this dissertation: that digital transformation in GREAT contexts often reconfigures, rather than eliminates, the formation–execution asymmetry that structures consumer decision processes

8.4 Implications for Research

Beyond managerial and policy insights, this study also contributes to ongoing scholarly discussions regarding digital transformation, consumer decision processes, and institutional intermediation.

First, the study introduces the concept of formation–execution asymmetry, which distinguishes between the mechanisms governing preference formation and those governing purchase realization. While existing consumer decision-making models typically treat evaluation and purchase as parts of a continuous process, the findings suggest that these stages may be governed by different actors and institutional structures.

Second, the research extends the literature on digital engagement by demonstrating that digital tools may function primarily as confidence-building mechanisms rather than direct transaction channels in certain contexts. This insight contributes to omnichannel research by highlighting boundary conditions under which digital exploration does not eliminate physical intermediation.

Third, the study contributes to research on consumer behavior in GREAT contexts by foregrounding settings in which institutional structures and market dynamics may not mirror those typically examined in WEIRD environments. The findings indicate that digital empowerment and institutional governance can coexist in hybrid decision structures, rather than assuming that one necessarily displaces the other.

Fourth, the concept of Brand Propensity introduced in this research offers a construct that captures digitally mediated confidence formation prior to purchase execution. Future studies may build on this construct to examine how digitally formed brand confidence evolves across different product categories and market environments.

Building on work that conceptualizes the customer journey as a consumer-assembled sequence of touchpoints rather than a firm-orchestrated funnel (Lemon & Verhoef, 2016), this study shows how digitally enabled journeys allow consumers to construct brand-specific confidence over time. The Brand Propensity construct captures this assembled confidence state, reflecting how consumers integrate information from multiple digital and offline interactions into a readiness to choose a particular brand, even when execution remains governed by institutional validators

8.5 Limitations of the Study

Several limitations should be acknowledged when interpreting the findings of this research.

First, the study focuses on the building materials category within the individual house building segment. This category possesses specific characteristics, including high physicality, technical complexity, and irreversible purchase consequences. As a result, the formation–execution asymmetry observed in this research may not apply equally to categories where products can be fully evaluated and delivered through digital channels.

Second, the study was conducted within a specific institutional context where engineers, masons, and dealers play significant roles in construction-related decision processes. The dynamics observed in this research may differ in markets where professional intermediaries play a less prominent role.

Third, the empirical setting reflects consumer behavior within a specific national and regional context. While the survey sample ultimately spanned multiple Indian states beyond Telangana—including Tamil Nadu, Rajasthan, Punjab and Himachal Pradesh, Gujarat, and Jharkhand and West Bengal—the study remains situated within India's regulatory, economic, and institutional environment. Differences in regulatory frameworks, digital adoption patterns, and institutional arrangements across countries may influence how digital engagement interacts with consumer decision-making, so caution is required in generalizing these findings beyond comparable contexts.

Finally, while the study captures several important constructs related to digital engagement, brand propensity, and validator influence, other contextual factors may also influence purchase outcomes.

8.6 Directions for Future Research

Future research may extend the findings of this study in several directions.

First, researchers may examine whether formation–execution asymmetry emerges in other high-involvement consumer categories such as automobiles and major home appliances, where product choice carries long-term functional and financial implications. Comparative studies across such categories could explore how different combinations of regulatory transparency and platform intermediation shape the degree to which formation–execution asymmetry is compressed or sustained in B2C decision journeys.

Second, future studies may investigate how different forms of digital content influence consumer confidence formation. Informational content, peer reviews, expert recommendations, and algorithmic comparison tools may affect decision processes in distinct ways and at different stages of the journey.

Third, research may examine how validators themselves engage with digital platforms. Engineers, contractors, and dealers increasingly use digital tools to access product information and coordinate projects. Understanding how digital technologies influence validator decision processes may reveal additional mechanisms through which digital transformation affects market outcomes.

Finally, longitudinal research may provide further insight into how digitally formed brand propensities evolve over time as consumers encounter new information, changing project conditions, or shifting institutional environments.

8.7 Conclusion

This dissertation examined how digital engagement shapes consumer decision-making in markets characterized by high physicality and institutional intermediation. The findings indicate that digital technologies significantly influence the formation of consumer confidence toward brands, enabling individuals to develop informed preferences through independent information search and evaluation.

However, the realization of these preferences remains governed by institutional actors and contextual constraints operating within the execution stage of the purchase process. This pattern reveals a formation–execution asymmetry in digitally mediated consumer journeys.

By distinguishing between digitally enabled confidence formation and institutionally governed purchase execution, this research contributes to a deeper understanding of how digital transformation unfolds in complex market environments. Rather than eliminating intermediaries, digital technologies reshape the distribution of influence across stages of the decision process, producing hybrid structures in which consumer empowerment and institutional governance coexist.

Closing Reflection

The transformation of markets through digital technologies is often interpreted as a story of disintermediation and frictionless transactions. The findings of this dissertation suggest a more nuanced reality. Digital platforms increasingly enable consumers to explore information, evaluate alternatives, and develop confidence in specific brands before engaging with traditional marketplaces. Yet in domains characterized by technical complexity, high financial stakes, and irreversible outcomes, the realization of consumer preferences continues to depend on institutional actors who validate feasibility and coordinate execution.

The resulting formation–execution asymmetry highlights the evolving balance between digitally enabled consumer cognition and institutionally governed market transactions. Understanding this balance is essential for explaining how digital transformation unfolds in sectors where physical infrastructure, expert validation, and coordinated implementation remain central to the marketplace. In such environments, digital technologies do not replace institutions; rather, they reshape the stages at which influence occurs, producing new configurations of consumer empowerment and institutional governance.

Chapter 9: Appendices

9.1 Consumer and Influencer Questionnaires (OLS)

9.1.1 IRB-Approved Consent Form – Consumer and Influencers

Study Title: ***Decline of Legacy Channels: How millennial consumers and digital technology are transforming the building materials industry.***

Principal Investigator: Abhishek Kathuria
Co-Investigator: Subrahmanyam Saripalli
Institution: Indian School of Business

Purpose of the Study:

You are invited to participate in a research study exploring how digital technology and millennial consumers are transforming the building materials industry, traditionally reliant on physical inspections. This study aims to understand evolving consumer behavior and the influence of digital tools on purchasing decisions.

What Participation Involves:

Your participation involves a one-on-one interview lasting approximately 45 minutes. Your responses will be recorded (notes taken by co-investigator) and kept confidential by anonymizing the participant details. The information you share will contribute to our research and help us better understand how digital technology is impacting both consumers and professionals in the industry.

Confidentiality:

- Your responses will remain strictly confidential.
- Only the research team will have access to the recordings and transcripts.
- Your identity will not be disclosed in any reports or publications.

Voluntary Participation:

Participation is entirely voluntary. You are free to withdraw at any time without any penalty or impact on your rights. There are no consequences for not participating in the study. This study duration is approximately 45 minutes.

Potential Risks and Benefits:

- There are no known risks associated with your participation.
- While there is no direct benefit to you, your insights will contribute to valuable research findings in the building materials industry.

Compensation:

No monetary or material compensation will be provided for participation.

Contact Information: If you have any questions or concerns about this study, please contact:

- If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research–related problem, you may contact the Principal Investigator: Professor Abhishek Kathuria at phone 040-2318-7425 or email abhishek_kathuria@isb.edu at the Indian School of Business, Gachibowli, Hyderabad – 500 111, India.

For questions about your rights as a research participant, you may contact the Chair of the Institutional Review Board (IRB) at ISB: Professor Hemant Kakkar phone: 040-2318-7140, email: Hemant_Kakkar@isb.edu at the Indian School of Business, Gachibowli, Hyderabad – 500 111, India.

- At this time, do you consent to participating in this survey? Yes No

PARTICIPANT SIGNATURE _____ DATE _____

Co-Investigator: Subrahmanyam Saripalli, subrahmanyam_saripalli@isb.edu

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Consent Acknowledgment: By signing below, you confirm your understanding of the study and consent to participate.

Participant Signature: _____

Date: _____

9.1.2 Consumer (IHB) questionnaire – OLS stage

(https://isb.au1.qualtrics.com/jfe/form/SV_eRJwFODSP3TGD1I)

Section 1: Demographics

Q1_D1 [All]: Stakeholder Category – Which of the following best describes you?

- Individual Home builder /Owner (individual consumer building or renovating a house)
- Building materials dealer/ Channel Partner
- Engineer (Civil engineer -working on building projects)
- Mason/Bar bender

Q2_D2 [Consumers]: Role in Project – Are you the homeowner or a family member directly involved in the house construction project?

- Homeowner
- Family member
- Other (please specify)

Q3_D3 [Consumers]: Age Group – What is your age group?

- Below 30 years | 31–35 years | 36–40 years
- 41–45 years | 46–50 years | 51–55 years
- 56 years or above

Q4_D4 [Consumers]: Education – What is your highest level of education?

- Primary or secondary school
- High school diploma (or equivalent)
- Undergraduate degree
- Postgraduate degree
- Other

Q5_D5 [Consumers]: Location – Where is your home construction located? (City/Town and State) – Open-ended response.

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Q6_D6 [Consumers]: Household Income – What is your monthly household income range?

- ₹50,000 – ₹1,00,000 | ₹1,00,001 – ₹2,00,000 | ₹2,00,001 – ₹3,00,000
- Above ₹3,00,000 | Prefer not to say

Q6A_D6_OCC [Consumers]: What is your primary occupation or source of income?

• Farmer / Agricultural income
• Government employee (e.g., teacher, clerk, civil services)
• Private sector salaried professional (e.g., software, sales, etc.)
• Business owner or self-employed
• Retired / Pensioner
• Other (please specify)

Section 2: Brand Journey

Q17_T1 [Consumers]: What type of home/building are you constructing or planning to construct?
• Individual house (independent home, e.g., G+1, G+2 floors)
• Duplex/Villa/Farmhouse
• Apartment/Flat (for personal use or rental)
• Commercial building (for business or rental use)
• Other (please specify)

Q18_X2_C [Consumers]: How frequently do you purchase building materials for your project?
• One-time purchase for the entire project
• In bulk at different stages of construction
• In multiple small purchases as needed
• Other (please specify)

Q19_X2_DLR [Dealers]: In your experience, how do most individual home builders (IHBs) purchase building materials for their projects?
• One-time purchase for the entire project
• In bulk at different stages of construction
• In multiple small purchases as needed
• Other

Q21_B1 [All]: Which factors influence your decision to trust or choose a particular building material brand? (Select all that apply)
• Brand reputation in the market
• Recommendations from professionals (engineers or masons)
• Online consumer reviews or testimonials
• Price and overall value for money
• Previous personal experience with the brand
• Other (please specify)

Q22_B3 [Consumers]: Before visiting the dealer or speaking to any mason or engineer, how confident were you about the brand(s) you wanted to use?
• Not at all confident
• Slightly confident
• Moderately confident
• Very confident
• Extremely confident

Q24B_B4 [Consumers]: Thinking about the materials you selected (e.g., steel, cement), which of the following best reflects how your brand preferences evolved during the project?

- I had a clear brand preference early on (based on online research, family input, or prior knowledge) and stuck with it.
- My preferences evolved gradually through digital tools, professional advice, and on-site needs.
- I had an initial preference but changed it after consulting with the mason, engineer, or dealer.

- I delayed brand decisions until key construction stages and relied on real-time inputs.
- I had no brand preference and simply followed others' recommendations or what was available.

Section 3: Digital Influence

Q25_X4 [All]: How frequently do you use online digital tools (websites, apps, etc.) for tasks related to building materials (such as researching products, comparing options, managing orders or work, etc.)?

- Never | Rarely | Sometimes
- Often | Always

Q26_X5 [Consumers, Engineers, Masons]: Which digital channels have you used to research building materials? (Select all that apply)

- Search engines (e.g., Google, Bing)
- Manufacturer websites or brand portals (e.g., Tata, JSW)E-commerce or B2B listing platforms (e.g., Indiamart, Justdial)
- Online reviews or videos (e.g., YouTube, builder blogs)
- Social media platforms (e.g., Facebook, Instagram, YouTube)
- Messaging apps or groups (e.g., WhatsApp communities)
- Traditional digital media (e.g., TV/radio ads, news websites)
- Other (please specify)

Q26A_X5A [Consumers]: At what stage of your home-building journey did you first begin using digital tools for researching building materials? (Select all that apply)

- Before any interaction with mason, engineer, or dealer
- During budget estimation and early planning
- After engaging mason or engineer
- While visiting or discussing with dealer
- Only during actual purchase
- I did not use digital tools

Q30_B2 [Consumers]: Do you feel that using digital tools has made you more independent in making building material decisions?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Q31_X9 [Consumers]: Overall, how satisfied are you with the digital platforms and tools you have used for building material research or purchases?

- Very dissatisfied | Somewhat dissatisfied | Neutral
- Somewhat satisfied | Very satisfied

Section 4: Influence Mapping

Q33_I1 [All]: In your opinion, how influential are each of the following sources on the final decision of which building material brand to use? (Rate 1–5)

1. Friends/Family advice
2. Online digital sources
3. Masons' recommendations

4. Engineers' recommendations
5. Dealers' recommendations

Q34_I2 [Consumers]: How important are physical inspections of materials (seeing/feeling the product in person) in your decision-making process for choosing building materials?

- Not at all important | Slightly important | Moderately important
- Very important | Extremely important

Section 5: Finance

Q36_F1 [Consumers]: How did you finance your building material purchases during your construction project? (Select all that apply)

- Self-funded (savings or cash)
- Bank loan (Standard terms of 80% of construction cost as per valuer -IBBI Insolvency & Bankruptcy board of India))
- Dealer credit (informal)
- Digital financing (e.g., BNPL)
- Other (family/friends/gold loan/chit fund)

Q37_F1C [Consumers]: For large purchases in other categories, have you used EMI or loans?

- Yes – for appliances
- Yes – for furniture
- Yes – for vehicles
- No – I usually avoid EMI/loans
- Prefer not to say

Q38_F2 [Consumers]: How easy or difficult was it to access credit or financing for your construction materials?

- Very difficult | Somewhat difficult | Neither easy nor difficult
- Somewhat easy | Extremely easy

Q39_F5 [Consumers]: Did budget or financial considerations cause you to switch brands during your project?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Q40_F5C [Consumers]: Would EMI options during the construction period have helped you stay with your original brand?

- Yes
- No

Section 6: Sales Outcome & Future Outlook

Q44_Y2A [All]:*In the next 5–10 years, to what extent do you believe digital platforms will change the role of traditional dealers?*

• Definitely not | Probably not | Might or might not
• Probably yes | Definitely yes

Q45_Y2B [All]:*How do you see the role of masons and engineers changing due to increasing digital awareness?*
• Definitely not • Probably not • Might or might not
• Probably yes • Definitely yes

Q46_Y1 [Consumers]:*In the future, for your building projects, would you prefer to rely on:*
• Traditional channels • Mix of digital and traditional
• Fully digital platforms • Other (please specify)

Q47_Y1C [Consumers]:*Did you end up purchasing the building material brand that you had initially decided upon before visiting a dealer or speaking to any influencer?*

• Yes • No • Partially (some materials matched, others changed)

Q48_Y1D [Consumers]:*Did you purchase the material from the same dealer you first interacted with for this brand or product?*

• Yes • No • Not applicable (used a different channel/platform)

Q49A_Y3 [Consumers] – Exploratory:*As digital platforms evolve, some building material purchases are starting to happen online. For your recent project, what approximate proportion of your total purchases (by value) happened through an online or app-based platform?*

• 0% (Only through physical dealer/store) • 1–25% • 26–50%
• 51–75% • 76–100% • Not sure / Not applicable

Q50_O1 [All]:*Please provide any comments, suggestions, or feedback regarding digital tools, platforms, or how manufacturers can support stakeholders like you.*
(Open-ended)

9.1.3 Engineer questionnaire – OLS stage

(https://isb.au1.qualtrics.com/jfe/form/SV_eRJwFODSP3TGD1I)

Section 1: Demographics

Q1_D1 [All]: Stakeholder Category – Which of the following best describes you?

- Individual Home builder /Owner (individual consumer building or renovating a house)
- Building materials dealer/ Channel Partner
- Engineer (Civil engineer -working on building projects)
- Mason/Bar bender

Q6B_OCC_TYPE [DLR/ENG/MSN]: Among the types of consumers, you interact with most frequently, which one or two groups best describe them?
(Tick up to three that apply)

• Farmers / Agricultural income
• Government employees (teachers, clerks, etc.)
• Private sector professionals (software, sales, etc.)
• Business owners / Self-employed
• Retired / Pensioners
• Other (please specify)

Q11_D11 [Engineers]: Experience – How long have you been working as an engineer in the building construction industry?

- Less than 1 year | 1–5 years | 6–10 years
- More than 10 years

Q12_D12 [Engineers]: Project Types – What types of projects do you primarily work on? (Distribute ~100%)

- Individual house projects: ____% | Apartments/flats: ____%
- Commercial buildings: ____% | Other (please specify): ____%

Q13_D13 [Engineers]: Client Income Profile – What is the common income range of the IHBs you work with?

- ₹50,000 – ₹1,00,000 | ₹1,00,001 – ₹2,00,000 | ₹2,00,001 – ₹3,00,000
- Above ₹3,00,000 | Other (please specify) |

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Section 2: Brand Journey

Q21_B1 [All]: Which factors influence your decision to trust or choose a particular building material brand? (Select all that apply)
• Brand reputation in the market
• Recommendations from professionals (engineers or masons)
• Online consumer reviews or testimonials
• Price and overall value for money
• Previous personal experience with the brand
• Other (please specify)

Q24_X3_ENG [Engineers]: In your experience, how often do consumers already have brand preferences before you make any recommendations?
• Never
• Rarely
• Sometimes
• Often
• Almost always

Section 3: Digital Influence

Q25_X4 [All]: How frequently do you use online digital tools (websites, apps, etc.) for tasks related to building materials (such as researching products, comparing options, managing orders or work, etc.)?

- Never | Rarely | Sometimes
- Often | Always

Q26_X5 [Consumers, Engineers, Masons]: Which digital channels have you used to research building materials? (Select all that apply)

- Search engines (e.g., Google, Bing)
- Manufacturer websites or brand portals (e.g., Tata, JSW)E-commerce or B2B listing platforms (e.g., Indiamart, Justdial)
- Online reviews or videos (e.g., YouTube, builder blogs)
- Social media platforms (e.g., Facebook, Instagram, YouTube)
- Messaging apps or groups (e.g., WhatsApp communities)
- Traditional digital media (e.g., TV/radio ads, news websites)

- Other (please specify)

Q29_X8 [Dealers, Engineers, Masons]: Have you noticed a significant shift in how consumers research and make decisions about building materials compared to five years ago?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Section 4: Influence Mapping

Q33_I1 [All]: In your opinion, how influential are each of the following sources on the final decision of which building material brand to use? (Rate 1–5)

6. Friends/Family advice
7. Online digital sources
8. Masons' recommendations
9. Engineers' recommendations
10. Dealers' recommendations

Q35_I3 [Dealers, Engineers, Masons]: Do you feel that consumers trust your recommendation when you suggest a particular brand?

- Definitely yes – They usually follow my recommendation, with clarifications
- Probably yes – They consider my input but often compare it with their choices and discuss
- Might or might not – They mostly come with pre-decided choices and only validate with me
- Probably not – They listen, but still follow their own choices
- Definitely not – They rarely follow my recommendation

Section 6: Sales Outcome & Future Outlook

Q44_Y2A [All]:*In the next 5–10 years, to what extent do you believe digital platforms will change the role of traditional dealers?*

• Definitely not | Probably not | Might or might not
• Probably yes | Definitely yes

Q45_Y2B [All]:*How do you see the role of masons and engineers changing due to increasing digital awareness?*
• Definitely not • Probably not • Might or might not
• Probably yes • Definitely yes

Q50_O1 [All]:*Please provide any comments, suggestions, or feedback regarding digital tools, platforms, or how manufacturers can support stakeholders like you.*
(Open-ended)

9.1.4 Mason questionnaire – OLS stage

(https://isb.au1.qualtrics.com/jfe/form/SV_eRJwFODSP3TGD1I)

Section 1: Demographics

Q1_D1 [All]: Stakeholder Category – Which of the following best describes you?

- Individual Home builder /Owner (individual consumer building or renovating a house)
- Building materials dealer/ Channel Partner
- Engineer (Civil engineer -working on building projects)
- Mason/Bar bender

Q6B_OCC_TYPE [DLR/ENG/MSN]: Among the types of consumers, you interact with most frequently, which one or two groups best describe them?
(Tick up to three that apply)

• Farmers / Agricultural income
• Government employees (teachers, clerks, etc.)
• Private sector professionals (software, sales, etc.)
• Business owners / Self-employed
• Retired / Pensioners
• Other (please specify)

Q14_D14 [Masons]: Experience – How long have you been working as a mason/bar bender?

- Less than 1 year | 1–5 years | 6–10 years
- More than 10 years

Q15_D15 [Masons]: Project Types – What types of projects do you mostly work on? (~100%)

- Individual house projects: ____% | Apartments/flats: ____%
- Commercial buildings: ____% | Other (please specify): ____%

Q16_D16 [Masons]: Client Income Profile – What is the most common income range of your clients?

- ₹50,000 – ₹1,00,000 | ₹1,00,001 – ₹2,00,000 | ₹2,00,001 – ₹3,00,000
- Above ₹3,00,000 | Other (please specify)

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Section 2: Brand Journey

Q20_X2_MSN [Masons]: In your observation, how do most homeowners you work with purchase materials during construction?
• One-time purchase for the entire project
• In bulk at different stages of construction
• In multiple small purchases as needed
• Other (please specify)

Q21_B1 [All]: Which factors influence your decision to trust or choose a particular building material brand? (Select all that apply)

• Brand reputation in the market
• Recommendations from professionals (engineers or masons)
• Online consumer reviews or testimonials
• Price and overall value for money
• Previous personal experience with the brand
• Other (please specify)

Q25_X3_MSN [Masons]: Do homeowners you work with often mention specific brands they already decided on before asking your opinion?
• Never
• Rarely
• Sometimes
• Often
• Almost always

Section 3: Digital Influence

Q25_X4 [All]: How frequently do you use online digital tools (websites, apps, etc.) for tasks related to building materials (such as researching products, comparing options, managing orders or work, etc.)?

- Never | Rarely | Sometimes
- Often | Always

Q26_X5 [Consumers, Engineers, Masons]: Which digital channels have you used to research building materials? (Select all that apply)

- Search engines (e.g., Google, Bing)
- Manufacturer websites or brand portals (e.g., Tata, JSW)E-commerce or B2B listing platforms (e.g., Indiamart, Justdial)
- Online reviews or videos (e.g., YouTube, builder blogs)
- Social media platforms (e.g., Facebook, Instagram, YouTube)
- Messaging apps or groups (e.g., WhatsApp communities)
- Traditional digital media (e.g., TV/radio ads, news websites)
- Other (please specify)

Q29_X8 [Dealers, Engineers, Masons]: Have you noticed a significant shift in how consumers research and make decisions about building materials compared to five years ago?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Section 4: Influence Mapping

Q33_I1 [All]: In your opinion, how influential are each of the following sources on the final decision of which building material brand to use? (Rate 1–5)

11. Friends/Family advice
12. Online digital sources
13. Masons' recommendations

14. Engineers' recommendations
15. Dealers' recommendations

Q35_I3 [Dealers, Engineers, Masons]: Do you feel that consumers trust your recommendation when you suggest a particular brand?

- Definitely yes – They usually follow my recommendation, with clarifications
- Probably yes – They consider my input but often compare it with their choices and discuss
- Might or might not – They mostly come with pre-decided choices and only validate with me
- Probably not – They listen, but still follow their own choices
- Definitely not – They rarely follow my recommendation

Section 5: Finance

Q43_F11 [Masons]: What role does financing play in your clients' brand/material choices?

- Strong influence | Moderate influence | Some influence
- Minimal influence | No influence

Section 6: Sales Outcome & Future Outlook

Q44_Y2A [All]:*In the next 5–10 years, to what extent do you believe digital platforms will change the role of traditional dealers?*

• Definitely not | Probably not | Might or might not
• Probably yes | Definitely yes

Q45_Y2B [All]:*How do you see the role of masons and engineers changing due to increasing digital awareness?*
• Definitely not • Probably not • Might or might not
• Probably yes • Definitely yes

Q50_O1 [All]:*Please provide any comments, suggestions, or feedback regarding digital tools, platforms, or how manufacturers can support stakeholders like you.*
(Open-ended)

9.1.5 Dealer questionnaire – OLS stage

(https://isb.au1.qualtrics.com/jfe/form/SV_eRJwFODSP3TGD1I)

Section 1: Demographics

Q1_D1 [All]: Stakeholder Category – Which of the following best describes you?

- Individual Home builder /Owner (individual consumer building or renovating a house)
- Building materials dealer/ Channel Partner
- Engineer (Civil engineer -working on building projects)
- Mason/Bar bender

Q6B_OCC_TYPE [DLR/ENG/MSN]: Among the types of consumers, you interact with most frequently, which one or two groups best describe them?

(Tick up to three that apply)

• Farmers / Agricultural income
• Government employees (teachers, clerks, etc.)
• Private sector professionals (software, sales, etc.)
• Business owners / Self-employed
• Retired / Pensioners
• Other (please specify)

Q7_D7 [Dealers]: Experience in Business – How long have you been operating as a building materials dealer?

- Less than 1 year | 1–5 years | 6–10 years |
- More than 10 years

Q8_D8 [Dealers]: Product Lines – What types of building materials do you primarily deal in? (Select all that apply)

- Steel | Cement | Paints | Bricks |
- Sand | Metal/Gravel | Waterproofing products
- Other (please specify)

Q9_D9 [Dealers]: Customer Project Types – Approximately what percentage of your business comes from each project type? (Total must be 100%)

- Individual house builders (G+1, G+2, or higher): ____%
- Apartment/flat construction: ____%
- Commercial buildings: ____%
- Other: ____%

Q10_D10 [Dealers]: Customer Income Profile – What is the most common monthly income range of the consumers you serve?

- ₹50,000 – ₹1,00,000 | ₹1,00,001 – ₹2,00,000 | ₹2,00,001 – ₹3,00,000
- Above ₹3,00,000 | Other (please specify) |

Section 2: Brand Journey

Q19_X2_DLR [Dealers]: In your experience, how do most individual home builders (IHBs) purchase building materials for their projects?

• One-time purchase for the entire project
• In bulk at different stages of construction
• In multiple small purchases as needed
• Other (please specify)

Q21_B1 [All]: Which factors influence your decision to trust or choose a particular building material brand? (Select all that apply)
• Brand reputation in the market
• Recommendations from professionals (engineers or masons)
• Online consumer reviews or testimonials
• Price and overall value for money
• Previous personal experience with the brand
• Other (please specify)

Q23_X3_DLR [Dealers]: In your experience, how often do customers walk into your store with brand choices already in mind (based on digital research or other sources)?

- Never | Rarely | Sometimes
  Often | Always

Section 3: Digital Influence

Q25_X4 [All]: How frequently do you use online digital tools (websites, apps, etc.) for tasks related to building materials (such as researching products, comparing options, managing orders or work, etc.)?

- Never | Rarely | Sometimes
- Often | Always

Q27_X6 [Dealers]: Which of the following digital tools or platforms do you currently use to promote your business or manage sales/orders?
Promotional Presence:

- Own website or Google Business listing
- Social media pages (Facebook, Instagram)
- E-commerce or B2B listing platforms (e.g., Indiamart, Justdial)
- QR code or digital visiting card

Customer & Order Management:

- Messaging apps like WhatsApp
- Manufacturer-provided online platforms or dealer apps
- Business software or custom system for tracking sales/inventory
- None of the above / Do not use digital tools
- Other (please specify)

Q28_X7 [Dealers]: Do you feel that digital marketing promotions by manufacturers (online ads, social media campaigns, etc.) directly impact customer footfall in your store or the number of material orders you receive?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Q29_X8 [Dealers, Engineers, Masons]: Have you noticed a significant shift in how consumers research and make decisions about building materials compared to five years ago?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Q32_X10 [Dealers]: How satisfied are you with the support provided by manufacturers in helping dealers integrate digital tools or platforms into your business?

- Very dissatisfied | Somewhat dissatisfied | Neutral
- Somewhat satisfied | Very satisfied

Section 4: Influence Mapping

Q33_I1 [All]: In your opinion, how influential are each of the following sources on the final decision of which building material brand to use? (Rate 1–5)

16. Friends/Family advice
17. Online digital sources
18. Masons' recommendations
19. Engineers' recommendations
20. Dealers' recommendations

Q35_I3 [Dealers, Engineers, Masons]: Do you feel that consumers trust your recommendation when you suggest a particular brand?

- Definitely yes – They usually follow my recommendation, with clarifications
- Probably yes – They consider my input but often compare it with their choices and discuss
- Might or might not – They mostly come with pre-decided choices and only validate with me
- Probably not – They listen, but still follow their own choices
- Definitely not – They rarely follow my recommendation

Section 5: Finance

Q41_F7 [Dealers]: How willing are you to offer digital financing options to customers?

- Not at all willing | Slightly willing | Moderately willing
- Very willing | Extremely willing

Q42_F10 [Dealers]: Do you believe that digital financing tools will change how customers purchase materials?

- Definitely not | Probably not | Might or might not
- Probably yes | Definitely yes

Section 6: Sales Outcome & Future Outlook

Q44_Y2A [All]:*In the next 5–10 years, to what extent do you believe digital platforms will change the role of traditional dealers?*

• Definitely not | Probably not | Might or might not
• Probably yes | Definitely yes

Q45_Y2B [All]:*How do you see the role of masons and engineers changing due to increasing digital awareness?*

• Definitely not • Probably not • Might or might not
• Probably yes • Definitely yes

Q50_O1 [All]:*Please provide any comments, suggestions, or feedback regarding digital tools, platforms, or how manufacturers can support stakeholders like you.*
(Open-ended)

9.2 Stage D Integrated Digital Consent and Consumer Questionnaire (SEM Aligned)

https://isb.au1.qualtrics.com/jfe/form/SV_b8x3eMKRdAuWAjs

ONLINE SURVEY CONSENT FORM

Study Title: Decline of Legacy Channels: How millennial consumers and digital technology are transforming the building materials industry
Principal Investigator: Professor Abhishek Kathuria
Co-Investigator: Subrahmanyam Saripalli
Institution: Indian School of Business

Purpose of the Study:

You are invited to participate in a research study exploring how digital technology and millennial consumers are influencing decision-making in the building materials industry, which has traditionally relied on physical inspections. The study aims to understand evolving consumer behavior and the role of digital tools in shaping brand choices and purchasing decisions.

What Participation Involves:

You will complete an online survey that takes approximately 10–12 minutes. Your responses will be collected anonymously through this online survey. You may optionally share your contact details at the end, but this is voluntary and not required for participation. The information you provide will support our research on how digital technology influences consumers and influencer decision-making in the building materials industry.

Confidentiality:

- Your responses will remain strictly confidential.
- Only the research team will have access to the survey data, which will be stored securely and analyzed in anonymized form.
- Your identity will not appear in any reports or publications.

Voluntary Participation:

Participation is entirely voluntary. You may skip any question or withdraw from the survey at any time by closing your browser. There is no penalty for discontinuing your participation.

Potential Risks and Benefits:

- There are no known risks associated with your participation.
- Although there is no direct personal benefit, your insights will contribute to academic research in the building materials industry.

Compensation:

No monetary or material compensation will be provided for participation.

Contact Information:

If you have any questions or concerns about this study, please contact:

- If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research–related problem, you may contact the Principal Investigator: Professor Abhishek Kathuria at phone 040-2318-7425 or email

abhishek_kathuria@isb.edu at the Indian School of Business, Gachibowli, Hyderabad – 500 111, India.

- For questions about your rights as a research participant, you may contact the Chair of the Institutional Review Board (IRB) at ISB: Professor Ashwini Chhatre at 040-2318-7134 or email Ashwini_Chhatre@isb.edu at the Indian School of Business, Gachibowli, Hyderabad – 500 111, India.

Do you consent to participate in this survey?

☐ *Yes, I consent*

☐ *No, I do not consent*

Co-Investigator: Subrahmanyam Saripalli, subrahmanyam_saripalli@isb.edu

Section A – About You and Your Home Project

1. **Type of home you are building**
   ☐ G + 1 ☐ G + 2 ☐ Independent house ☐ Apartment ☐ Other _____
2. **Your age group**
   ☐ Below 30 ☐ 30 – 35 ☐ 36 – 40 ☐ 41 – 45 ☐ 46 – 50 ☐ 51 – 55 ☐ Above 55
3. **Education level**
   ☐ Up to 12th ☐ Diploma / ITI ☐ Under-graduate ☐ Post-graduate ☐ Doctorate
4. **Occupation**
   ☐ Government employee ☐ Private job ☐ Business / Self-employed ☐ Professional (Engineer, Doctor etc.) ☐ Contractor / Mason ☐ Homemaker ☐ Student ☐ Retired ☐ Other _____
5. **Approximate monthly household income**
   ☐ Below ₹ 1 lakh ☐ ₹ 1 – 2 lakhs ☐ Above ₹ 2 lakhs
6. **People you usually consult for construction decisions** (tick all that apply)
   ☐ Engineer / Architect ☐ Mason / Contractor ☐ Dealer / Trader ☐ Friends / Family ☐ Online Sources ☐ Self (own research)
   (Enumerator note – tick all that apply; do not prompt with examples.)

Section B – Using Online Information for Brand Decisions (MarTech Construct)

7. How often do you see or forward construction-related content online?
   (1 = Never … 5 = Very frequently) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
8. How much do you trust such information?
   (1 = Do not trust … 5 = Trust completely) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
9. How easy is it to understand brand information available online?
   (1 = Very difficult … 5 = Very easy) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
10. Overall satisfaction with digital information before purchase
    (1 = Very dissatisfied … 5 = Very satisfied) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Section C – Confidence and Choice of Brand (Brand Propensity Block)

11. How many brands did you consider before deciding?
    ☐ 1 ☐ 2 – 3 ☐ More than 3 ☐ None (decided immediately)
12. What was the most important factor in your final brand choice? (choose one)
    ☐ Engineer's technical advice ☐ Mason's practical experience ☐ Dealer's trust / service ☐ Friends / Family ☐ Online search / digital media ☐ Price / offer ☐ Own experience

13. Did you validate your brand choice after purchase? ☐ No
    If yes → Rank below (1 = Low … 6 = High)
    ☐ Engineer ☐ Dealer ☐ Mason ☐ Family / Friends ☐ Online reviews ☐ Self-check
14. Would you recommend this brand to others?
    (1 = Definitely not … 5 = Definitely yes) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
15. Did you finally buy the same brand you planned?
    ☐ Yes (same brand) ☐ Partial (mixed brands) ☐ No (different brand)

Section D – Other Factors That Guided Brand Purchase Decisions

Q16 (Add-On – Digital Behavior Context)
How do you usually use digital information during your home project? (select all that apply)
☐ Watch or read construction videos / posts online
☐ Compare different brands online before shortlisting
☐ Forward or discuss online info with engineer, mason, or dealer
☐ Verify the same brand physically at a store or site
☐ Ignore or rarely act on such information
☐ Other (please specify) _____

Q17 (Add-On – Situational Exploration; SEM-testable)
During your project, did any of the following happen? (select all that apply)
☐ Engineer suggested a different brand before purchase planning
☐ Dealer / Retailer showed an alternative during purchase / booking
☐ Mason / Contractor recommended a different brand during work / after first use
☐ I saw online info / ads / reviews and explored another brand before purchase
☐ A special offer or promotion influenced my brand during purchase
☐ Family & Friends prompted me to explore another brand
☐ Own comparison at site / shop led me to explore / change after first use
☐ None of the above

Q18 Finance or offers influenced your brand choice
(1 = Not at all … 5 = Very much) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Q19 Do you trust advice from people with a similar work background as you?
(1 = Disagree … 5 = Agree) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Q20 Would you recommend this brand to others?
(1 = Definitely not … 5 = Definitely yes) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Section Z – Optional Location and Contact Details (For Research Validation)

(This section is optional. You may skip it if you prefer.)

Z1. State you live in

Z2. District / Region

Z3. Would you like to share your contact details for clarification, if needed?
(This is voluntary and not required for participation.)

- **Name (optional):** _____
- **Phone (optional):** _____
- **Email (optional):** _____
- ☐ Prefer not to disclose

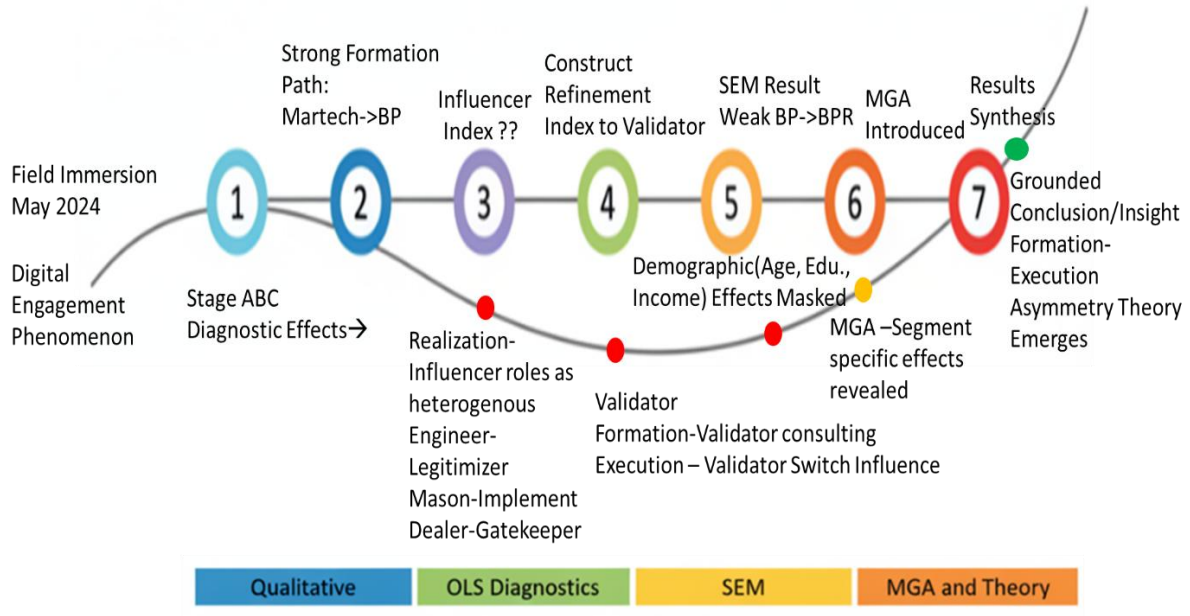
9.3 Survey Artefact Archive (OLS and Stage D)

This study generated multiple electronic artefacts, including full Qualtrics survey builds, raw response exports, analysis-ready datasets for the OLS diagnostic stages and the Stage D structural survey, and associated robustness outputs (including OLS PDF outputs and stress-test specifications). These materials are securely archived in password-protected Qualtrics and institutional storage as anonymized datasets. Direct web links are not provided in this thesis to preserve data security; the complete artefact set will be made available to qualified researchers upon request, subject to authorization by the Principal Investigator and applicable institutional policies.

9.4 Research Evolution Roadmap

Figure 9.4.1 presents the iterative mixed-methods journey from field immersion through OLS diagnostics, SEM estimation, and Multi-Group Analysis, culminating in the Formation–Execution Asymmetry framework. Peaks represent moments of analytical clarity; valleys (marked by dots) represent moments where complexity or new questions emerged, driving subsequent refinement.

Figure 9.4.1: Road Map



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