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Investor Insights: Concept Mapping the Corporate Bond Landscape

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Abstract

Retail investor participation in corporate bond markets remains limited, despite increased access via fintech platforms and rising demand for fixed-income products among aging populations. We examine why individuals stay disengaged through a structured multi-stage behavioural study. Using concept mapping, exploratory factor analysis (EFA), and confirmatory composite analysis (CCA), we identify key psychological and emotional drivers of investor participation. Across three sequential studies, trust, simplicity, brand familiarity, and perceived control consistently outweigh traditional financial metrics, such as yield or risk. These findings suggest that cognitive and emotional frameworks have a greater influence on investment decisions than technical understanding. The study also highlights concept mapping as a powerful tool for identifying behavioural drivers in fixed income markets. Our findings provide practical insights to strengthen personal finance decision-making and promote retail investor engagement by emphasising emotional trust, simplicity, and relatable product framing.

Keywords: Concept Mapping, Corporate Bonds,

JEL classifications: G11, G12, G14

1. Introduction

Corporate bonds are critical in long-term wealth-building and portfolio diversification, yet they remain relatively underutilised in personal finance. While institutional perspectives have dominated academic and industry discourse, comparatively little attention has been paid to how individual investors perceive and interact with these fixed-income products. Unlike equities, which have benefited from accessible platforms and emotionally resonant narratives, bonds are often viewed as opaque, impersonal, or challenging to evaluate. This paradox is echoed in Bu et al. (2023), who found that in the Chinese context, fintech adoption hesitancy is driven more by perceived risks than by lack of access. Their findings challenge the assumption that technological democratisation alone leads to broader engagement—particularly in trust-sensitive domains such as bond markets. Emerging research in behavioural finance suggests that investor engagement is shaped not only by expected returns, but also by heuristics, emotional comfort, perceived trust, and clarity of communication (Barberis and Thaler, 2003; Shefrin, 2002). Understanding these subjective dimensions is essential for expanding retail participation in bond markets and designing financial products that align with investor cognition. Our study applies concept mapping methodology, widely used in education and public health research, but rarely in finance (Rosas and Kane, 2012; Trochim, 1989)—to systematically extract and quantify the cognitive and emotional drivers behind corporate bond investment decisions. Our work repositions bond investors not as dispassionate agents maximising yield, but as complex decision-makers navigating a multidimensional psychological and informational landscape.

Despite extensive literature on bond pricing, liquidity, and market efficiency (Duffie and Singleton, 1999; Longstaff et al., 2005), relatively little is known about the decision-making processes of individual retail investors in this asset class. Classical finance assumes rational, utility-maximising agents, yet retail investors often deviate from this idealised model due to cognitive limitations and emotional heuristics. Theories such as dual-process models of decision-making (Kahneman, 2011), bounded rationality (Simon, 1955), and cognitive load theory (Sweller, 1988) highlight how intuitive heuristics, information constraints, and processing fatigue shape real-world financial behaviour. These frameworks are reinforced by empirical studies in personal finance showing that economic behaviour is shaped not just by knowledge but also by emotional resonance, trust in sources, and framing effects (Hilgert et al., 2003; Fernandes et al., 2014; Clark-Murphy and Soutar, 2005). Recent evidence shows that even financially literate individuals are susceptible to biases such as loss aversion, familiarity preference, and information salience when evaluating long-term products like bonds (Barberis and Huang, 2001; Perry and Morris, 2005). Collectively, this literature underscores the need to move beyond rationalist models and embrace a behaviorally grounded understanding of investor engagement in fixed income markets.

Independent of the study's outcomes, how investors engage with corporate bond information is relevant for enhancing disclosure practices, reducing cognitive barriers, and aligning financial products with user needs. A growing body of behavioural finance literature reveals that investor decisions are often shaped by heuristics such as availability bias (Tversky and Kahneman, 1973), overconfidence (Daniel et al.,

1998), and affective cues. Furthermore, prior studies have explored financial literacy as a determinant of investment quality (Lusardi and Mitchell, 2014), but empirical research finds persistent mismatches between financial knowledge and behaviour (Hilgert et al., 2003; Fernandes et al., 2014). Although widely used in education and healthcare, concept mapping has rarely been applied to finance (Rosas and Kane, 2012; Homer and Kanagasapapathy, 2023). By bridging this methodological gap, our study aims to shift the corporate bond literature away from assumptions of investor homogeneity and instead focus on the nuanced, multidimensional realities that shape bond investing.

Existing approaches to understanding retail investor behaviour in corporate bond markets often overlook the psychological, informational, and methodological barriers that shape real-world decision-making. Yet our study challenges this on threefold. First, there is a cognitive gap: investors do not evaluate bonds purely on data but on how that data is presented, perceived, and contextualised, a finding echoed in literature on information design and investor heuristics (Barberis and Huang, 2001; Daniel et al., 1998). Second, there is a communication gap: what investors want to know (e.g., clarity of risks and source trustworthiness) often differs from what financial documents and disclosures provide (OECD, 2020). Third, there is a methodological gap: current financial models rarely account for latent behavioural constructs unless using tools such as structural equation modelling (SEM) or concept mapping (Rosas and Kane, 2012; Schuberth et al., 2018). Addressing these gaps requires integrating methods that center investor cognition rather than solely focusing on market mechanisms.

Motivated by the gaps, we conducted a three-part empirical study using structured concept mapping. In Study 1, seven participants brainstormed 55 unique statements in response to the question: "What would influence you to invest in corporate bonds?" These statements were grouped, sorted, and rated based on perceived importance and visibility. Using multidimensional scaling (MDS) and hierarchical clustering (Rosas and Kane, 2012), we identified initial thematic groupings. Study 2 surveyed 300 university students interested in personal finance, who rated each item's importance, enabling us to conduct Exploratory Factor Analysis (EFA) following best practices for behavioral construct identification (Howard, 2016). Study 3 used Confirmatory Composite Analysis (CCA) within Partial Least Squares Structural Equation Modelling (PLS-SEM), with 271 participants validating a refined eight-factor model (Hair Jr et al., 2020; Schuberth et al., 2018). Across all phases, we measured both normative expectations and perceived descriptive realities, revealing significant and persistent mismatches in how bond investment information is valued and experienced.

Our study makes three primary contributions. First, it introduces a validated behavioural framework specific to corporate bond investment, identifying eight dimensions of investor concern, ranging from information clarity and credibility to emotional comfort with risk. Second, it offers practical guidance for communication design, showing that psychological cues (e.g., trust, simplicity, familiarity) strongly shape decision-making—echoing calls for improved investor engagement strategies (Hastings et al., 2013; Perry and Morris, 2005). Third, it establishes concept mapping as a credible tool for financial research, especially in areas where beliefs, per-

ceptions, and behavioural segmentation are critical. Our study supports a broader behavioural shift within finance that values subjective investor experience alongside objective data.

The eight-factor model includes dimensions such as transparency of information, trust in sources, clarity of returns, perceived risk protection, emotional ease, issuer credibility, language accessibility, and product familiarity. Across all eight, we found statistically significant discrepancies ($p < .001$) between what investors say they need and what they experience, particularly in financial language accessibility and the perceived intentions of issuers. These findings mirror prior research in behavioural economics showing that people make different decisions based on framing, trust, and information salience (Kahneman, 2011; Shefrin, 2002). Interestingly, respondents consistently rated trust and source credibility as more important than expected returns, indicating that reputational signals and relational trust are primary drivers of bond selection among retail investors, even in a context typically assumed to be dominated by financial metrics.

The implications of these findings are significant. Financial advisors, institutional, issuers, and regulatory bodies must recognise that investor behaviour cannot be predicted or influenced solely by adjusting risk premiums or publishing disclosures; how information is framed and perceived matters immensely, especially in a low-yield, post-crisis environment where investor scepticism remains high (Becker and Ivashina, 2015; Greenwood and Hanson, 2013). Education programs must go beyond financial numeracy, including communication design, source literacy, and emotional intelligence. Additionally, bond issuers should consider behavioural signals in

their investor communications, ensuring that trust is not merely assumed but actively cultivated. Consistent with behavioural literature, the respondents prioritised trust and issuer credibility over expected returns, underscoring the importance of emotional reassurance, reputational familiarity, and perceived transparency in driving retail bond preferences (Barberis and Huang, 2001; Clark-Murphy and Soutar, 2004; Prajapati et al., 2021).

The novelty of our study is that we employed concept mapping and confirmatory composite modelling to examine investor cognition in the corporate bond market. By translating investor voices into statistically validated behavioural constructs, we move beyond traditional financial indicators to include perception-based variables that better explain real-world behaviour. Our methodology aligns with emerging hybrid models in behavioural finance that integrate SEM, cognitive clustering, and qualitative emergence (Kline, 2011; Homer, 2024). In centering the investor's mental model rather than the firm's cost of capital, we offer a novel and actionable perspective for researchers, practitioners, and policymakers alike.

The paper is organised as follows: Section 2 reviews the literature relevant to our study. Section 3 outlines the methodology and explains how our data were obtained. Section 4 gives the results, and Section 5 discusses them. Section 6 concludes our study.

2. Literature Review

Personal finance behaviour reflects a complex interplay between cognition, emotion, and social context, contrasting with the idealised rationality of classical finance. A

growing body of literature has challenged these assumptions, demonstrating that individuals often approach financial decisions through mental shortcuts, social cues, and emotionally charged heuristics, resulting in inconsistent or suboptimal outcomes. Early behavioural theories like Prospect Theory Kahneman and Tversky (2013) established the asymmetry in how people process gains and losses, revealing a fundamental sensitivity to potential losses that can distort risk perceptions, particularly in speculative-grade bonds (Barberis and Huang, 2001).

Such behavioural irregularities raise questions about financial education. The propensity to plan has been identified as a key predictor of engagement with structured financial products, such as corporate bonds (Lynch Jr et al., 2010). If individuals act on emotion, intuition, or incomplete information, what role can knowledge realistically play in improving outcomes? Scholars diverge sharply here. On one side, Lusardi and Mitchell (2014) argues that financial literacy is a foundational tool that empowers individuals to plan, save, and invest more effectively. Their work has consistently linked higher financial knowledge to improved financial resilience and greater engagement with financial markets (Van Rooij et al., 2011). However, this view is complicated by evidence that knowledge alone may not be sufficient. Fernandes et al. (2014) conducted a wide-ranging meta-analysis, concluding that while education is beneficial, its impact is often modest and declines over time unless supported by behaviorally grounded reinforcement mechanisms. This gap between knowing and doing also surfaces in the work of Hilgert et al. (2003), who found that many individuals with strong financial knowledge still engage in risky or inconsistent behaviors—suggesting that structural, motivational, or emotional factors

may override what people know they should do. Hibbert et al. (2013) explored how financial knowledge influences risk preferences, particularly across genders. Their results suggest that enhanced financial literacy can reduce aversion to investment risk, highlighting the role of perceived comprehension and self-efficacy in shaping personal investment behaviour.

Cognitive science offers several theories grounded in decision-making processes to explain these behavioural inconsistencies better. Dual-process theory (Kahneman, 2011) distinguishes between intuitive (System 1) and analytical (System 2) thinking. In financial contexts—particularly those involving unfamiliar or complex products, such as corporate bonds—investors often rely on System 1 heuristics, favouring familiarity, trust, and affective cues over detailed analysis. These theoretical insights align with segmentation studies, that show that investor behaviour is influenced more by emotional and cognitive preferences than by technical knowledge or demographic factors (Clark-Murphy and Soutar, 2005). Similar themes have been observed in India, where investors' green bond preferences are influenced more by perceived credibility and social framing than technical product attributes (Prajapati et al., 2021). Dharani et al. (2019) examined the influence of faith-based norms on investor behaviour in India. They found that religious alignment and cultural familiarity significantly affect portfolio decisions, underscoring the role of non-financial heuristics in shaping investment preferences. This supports the case for tailoring bond communication strategies to investor psychology rather than relying solely on financial education. Bounded rationality (Simon, 1955) reinforces this perspective by proposing that individuals adopt "satisficing" strategies when faced with limited cognitive resources,

time, or information. Complementing both, cognitive load theory (Sweller, 1988) suggests that dense or poorly structured financial disclosures can overwhelm working memory, prompting disengagement or reliance on simplified cues. These theories provide a valuable lens for understanding how investors process, prioritise, and act on information in the fixed income space. A personal savings orientation has been shown to drive conservative and habitual financial decision-making, making such investors more receptive to stable, income-generating products, such as corporate bonds (Dholakia et al., 2016).

Behavioural frictions are compounded by the informational environment in which financial decisions are made. Rather than consulting formal advisors or academic resources, many individuals, particularly digital natives, rely on informal and peer-based channels for guidance. This reflects broader evidence that peer advice, emotional cues, and experiential trust shape decision-making more than formal education, especially among younger investors evaluating abstract financial products (Ali et al., 2015; Worthington, 2008). In Australia, investor segmentation research has shown that simplicity, trust in issuers, and clarity of information significantly influence retail investor preferences (Clark-Murphy and Soutar, 2004). Fatemi et al. (2018) found that Environmental, Social, and Governance (ESG) disclosures enhance firm value by promoting transparency. These disclosures serve as trust signals to investors, influencing behaviour beyond traditional return metrics and aligning with behavioural framing theories. Robb and Woodyard (2011) found that young adults frequently turn to social circles, influencers, or online forums for financial advice. Temporal orientation also matters; future-oriented individuals are more likely to in-

vest in long-horizon, low-volatility products such as corporate bonds (Bartels and Urminsky, 2015). OECD data[1] revealed that while many young people report confidence in their financial decision-making, few demonstrate the consistent application of that knowledge, suggesting a mismatch between self-assessment and actual competence. This mirrors findings that subjective financial knowledge, "What individuals think they know", can more strongly influence investment participation than actual literacy (Hadar et al., 2013). Keffala (2021) analysed derivative use in Islamic banks, showing that simplicity and ethical consistency lead to higher investor confidence. His findings underscore the relevance of intuitive and principled financial products for attracting conservative retail investors. Poor mental models of complex financial products may further widen the perception gap. Studies have shown that individuals often fail to relate abstract instruments like superannuation or corporate bonds to tangible goals without plain-language framing and real-life analogies (Kingston and Thorp, 2019; Worthington, 2008). Emotionally driven individuals may avoid investing altogether if decisions appear too complex or stressful, notably when product framing lacks affective cues (Park and Sela, 2018).

In financial behaviour research, the adoption of concept mapping remains limited but promising. Homer and Kanagasapapathy (2023) applied this methodology to explore Gen Z's views on sustainable tourism, showing how cognitive clustering can reveal underlying value systems and decision priorities. Their work parallels Wong et al. (2023), who used concept mapping to examine how citizens mentally construct

[1]OECD/INFE 2020 international survey of adult financial literacy. OECD Publishing. https://www.oecd.org/en/publications/2020/06/oecd-infe-2020-international-survey-of-adult-financial-literacy_bbad9b27.html

the concept of "smart sustainable cities." Both studies affirm that when given space to express their perspectives, young adults organise decision criteria in nuanced, multidimensional ways that traditional survey instruments often overlook.

Another influential bias affecting bond investment decisions is the availability heuristic, where investors rely disproportionately on salient but infrequent events, such as corporate defaults or credit rating downgrades, rather than conducting a comprehensive risk analysis (Tversky and Kahneman, 1973). This tendency distorts risk assessments and leads to cyclical fluctuations in credit supply, with investors extending excessive credit in optimistic periods and tightening lending standards in response to adverse events (Greenwood and Hanson, 2013). The overconfidence bias is particularly evident in low-interest-rate environments, where investors underestimate default risk in high-yield bonds and overallocate capital to riskier securities (Daniel et al., 1998). The post-2008 financial crisis exemplified this behaviour, as yield-seeking investors significantly increased their exposure to speculative-grade debt, leading to compressed risk premia and eventual market corrections (Becker and Ivashina, 2015).

Exploring investment behaviours in the corporate bond market requires incorporating psychological and socio-economic factors beyond traditional financial analysis. The foundational work by Gold et al. (2001) on knowledge management highlights the significance of organisational capabilities in shaping investment decisions. Their research argues that the effective assimilation and utilisation of financial knowledge within firms can influence market behaviours, including corporate bond investments. This perspective aligns with the behavioural finance literature, suggesting that in-

vestors' processing and reaction to financial information are often shaped by institutional learning, cognitive biases, and sentiment-driven decision-making, rather than purely rational analysis.

Building on this framework, Hair Jr et al. (2020) emphasises the importance of confirmatory composite analysis (CCA) in Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess the quality of psychological measurement models. This methodological advancement is crucial in evaluating investor sentiment, risk perception, and behavioural biases, ensuring that the underlying cognitive constructs influencing bond investment decisions are accurately captured. Hair Jr and Sarstedt (2019) extends this discussion by highlighting the critical decision between using factors and composites in structural models. This choice directly impacts the accuracy of latent constructs related to investment behaviour. These methodological contributions reinforce the need to quantify investor psychology and integrate behavioural influences into corporate bond valuation models.

The study of investor cognition has been further advanced through group concept mapping, a structured technique that bridges the gap between conceptual research and empirical data. Homer and Kanagasapapathy (2023) and Homer (2024) apply this methodology to explore how demographic groups, such as Gen Z, conceptualise financial opportunities in areas like sustainable tourism. While their research primarily focuses on ESG investments, the adaptability of concept mapping makes it particularly relevant to corporate bond markets, where investor perception significantly influences credit spreads, liquidity decisions, and assessments of default risk. By mapping how investors categorise risk and return trade-offs, this approach

provides valuable insights into how sentiment-driven mispricing emerges in bond markets.

Integrating structural equation modelling (SEM) with multilevel modelling, as proposed by Kline (2011), enhances our ability to analyse complex data structures that reflect individual and collective investment behaviours. This framework is particularly relevant in corporate bond markets, where macroeconomic policies and firm-specific credit risk factors interact with microeconomic investor preferences. SEM enables researchers to account for hierarchical dependencies, such as how institutional investors influence retail market sentiment or how changes in credit ratings impact investor psychology across different risk tolerance levels. By converging these methodologies, researchers can uncover hidden behavioural dynamics that traditional financial models fail to capture.

Rosas and Kane (2012) further reinforces methodological rigour in concept mapping, who stress the importance of validating broad investment trends through structured qualitative analysis. Their findings highlight that traditional quantitative models often fail to capture psychological influences in financial decision-making fully, necessitating behavioural segmentation approaches to understand how different investor groups respond to bond market fluctuations. Similarly, Schuberth et al. (2018) applies confirmatory composite analysis (CCA) in psychology, an approach that has been successfully adapted to finance to enhance the accuracy of psychological constructs in investment research. These studies support the notion that investor sentiment and psychological biases should be incorporated into corporate bond risk assessment frameworks.

Investor behaviour is also shaped by memory and personal experience. Raut (2020) shows that past adverse outcomes can anchor future investment avoidance, regardless of current literacy levels, and that confidence building through small wins may be more effective than education alone. These insights echo the role of behavioural reinforcement mechanisms in overcoming inertia. While concept mapping offers rich data, its interpretability depends on methodological rigour. Factor-analytic approaches, such as EFA, help uncover the latent structure of participant clusters. Howard (2016) provides detailed guidance on design decisions, including sample size, factor retention, and rotation techniques, that ensure validity. Schuberth et al. (2018) introduced Confirmatory Composite Analysis (CCA), particularly suited for emergent rather than reflective constructs, such as trust or perceived risk. Hair Jr et al. (2020) argue that CCA within PLS-SEM allows for greater flexibility and precision in modelling formative constructs, especially important when the constructs are drawn directly from participant insights, as in concept mapping studies. Retail investors also demonstrate strong preferences for transparency, accessible information, and consistency in trust cues—placing these factors above technical performance metrics (Clark-Murphy and Soutar, 2004; Prajapati et al., 2021). These patterns further validate the use of concept mapping to surface latent perceptions and underscore the need for behaviorally aligned bond design.

3. Methodology

3.1. Study 1 - Concept Mapping: Exploratory Phase

3.1.1 Participants

The initial study consisted of a focus group of 7 participants, purposefully selected based on their interests in investments and their status as university students. Recruitment was conducted using the university's learning management system, as an ePoster was shared with a call for interest. Whilst this number is inconsistent with Homer (2024) recommendation for concept mapping sample size, as this study was used as an initial exploratory study to be supported by more extensive statistical studies, it was deemed appropriate. The participants were invited to attend a four-hour workshop session. At the workshop, participants were provided with lunch and refreshments.

3.1.2 Procedure

The present study utilised concept mapping, a bottom-up exploratory research design, that has been recently employed to investigate topics such as Smart Sustainable Cities (Wong et al., 2023) and Urban Sustainable Tourism (Homer and Kanagasapapathy, 2023). The concept mapping process consists of five stages: participants are given a prompt and are asked to generate statements through brainstorming; the statements are then categorised into groups based on cognitive relationships; ratings are assigned to each statement, that are later used for multi-dimensional scaling (MDS); a hierarchical cluster analysis (HCA) is conducted to identify statistically reliable clusters of related statements; finally, the resulting clusters are named ac-

cordingly (Homer, 2024). Concept mapping allows participants to generate novel ideas and systematically organise them, guided by grounded theory, into statistically reliable clusters (Rosas and Kane, 2012).

3.1.3 Stage 1 - Create Statements

The participants were presented with the following prompt:

> "What would influence you to invest in corporate bonds?"
>
> Prompt: "Why would people invest in corporate bonds?", "How do they learn more about it and consider its inclusion in their investment or retirement portfolios?", "Where would they obtain information to know more about it", and "Whom would they contact to make an investment?", "Think about corporate bonds and how they compare to other investments that you know about".

Participants were instructed to document their ideas using the online brainstorming feature in The Concept System® Global MAX© browser-based software. Participants were encouraged to discuss and view their own and others' contributions during the brainstorming session. This helped participants improve each other's ideas without repetition. No limit was set on the number of statements made during brainstorming to capture all ideas. After brainstorming, participants were told to evaluate the extensive list of statements. Group discussion determined that statements to remove or improve. This included eliminating redundant or multi-point statements to create a valid set.

3.1.4 Stage 2 – Group Statements

Participants were instructed to use Concept System® Global MAX© to group statements on the screen. Participants were told to group statements of two or more. They were instructed not to put statements in one pile or create a miscellaneous pile for themes or statements. Participants were also asked to name each set of statements. Participants were not instructed to arrange the statements to reflect their cognitive connections. After grouping the statements, participants were asked to rate them on two dimensions using 7-point Likert scales as shown in Figure 1 and Figure 2:

Figure 1: 7-Point Likert Scale: Importance
The figure illustrates the 7-point Likert scale used by participants to rate each grouped statement based on its perceived importance, ranging from *Very Unimportant* to *Very Important*.

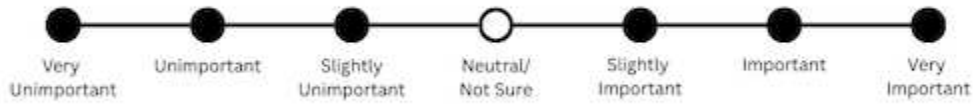
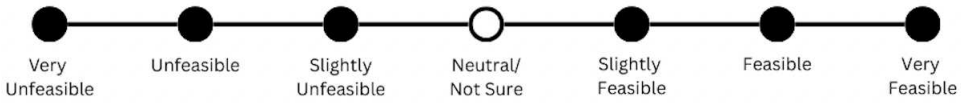


Figure 2: 7-Point Likert Scale: Feasibility
The figure illustrates the 7-point Likert scale used by participants to rate each grouped statement based on its perceived feasibility, ranging from *Very Unimportant* to *Very Important*.



3.1.5 Stage 3 - Multi-dimensional Scaling

Concept System® Global MAX© created a point map using multi-dimensional scaling (MDS). Each point on the map represents the position of a statement's grouping. Statements in the same group are closer together than those in other groups (Homer, 2024). The MDS analysis followed the guidelines of Sturrock and Rocha (2000). It grouped statements into a two-dimensional space based on participant groupings when a stress value below 0.39 produces a point map with 99% non-randomness.

3.1.6 Stage 4 - Hierarchical Cluster Analysis

The Concept System® Global MAX©built resilient statement clusters using hierarchical cluster analysis (HCA). The clusters were created by iterative maximum likelihood analysis of second-stage sorting statement groupings. This analysis aimed to determine the minimum cluster count for statement organisation. Participants were instructed to review each clustering iteration to ensure that the final clusters were semantically consistent and accurately represented the investigated issue, considering multiple optimal solutions (Homer, 2024).

3.1.7 Stage 5 – Labelling Clusters

The Global MAX software displayed the ten-stage two-group names closest to stage four clusters. Participants were told to assess cluster content and name each cluster. The name-picking continued until consensus was reached.

University Research Ethics Committee approval code SUREC 2022/068 was given to the study. Each participant received a detailed information sheet and ticked the box indicating that they had given informed consent.

3.2. Study 2 - Exploratory Factor Analysis (EFA)

3.2.1 Participants

The participants comprised a purposeful sample of students interested in investments and savings, totalling 300. The sample consisted of a majority of females with an average age of 20 years, predominantly ethnic Chinese, and holding an undergraduate degree; the complete demographics are presented in Table 1.

Table 1: Study 2 Demographics
This table reports the demographic characteristics of the participants, including gender distribution, age statistics (minimum, maximum, average, and standard deviation), ethnic breakdown, and educational levels.

Gender		**Age**		**Ethnicity**		**Education**	
Male	106	Min.	18	Chinese	222	High school	22
Female	184	Max.	24	Malay	27	College	104
Prefer not to say	10	Ave.	20.0	Indian	32	Undergrad. Degree	166
		Std.	1.4	Other	16	Postgraduate Degree	3
				Prefer not to say	3	Prefer not to say	5

3.2.2 Procedures

The review paper written by Rosas and Kane (2012) regarding the application of concept mapping in creating measurement instruments was used as a source to validate the instrument. The initial step entails consolidating the list of statements. Rosas and Kane (2012) states that the most frequently used method to shorten a list of statements is to set a particular rating threshold. The threshold for this study was determined using the importance rating derived from the conceptualisation. However, this study used a relatively small number of statements, leading to the inclusion

of all 55 statements.

The study has obtained approval from the University Research Ethics Committee with the approval code SUREC 2023/055. Every participant was provided with a thorough information sheet and gave informed consent by checking the participant consent box.

To better understand the savings and investment orientation of the participants, they were asked an additional three questions: "What percentage of your income do you intend to save when you start working?", "What percentage of your savings would you invest in corporate bonds once you start working?", and "How important are your retirement savings to you?" using the 7-Point Importance Likert Scale as seen in Figure 1. The results from this can be seen in Table 3, where participants suggest an average allocation of 38.3% to savings, with 19% of this being held in corporate bonds.

Table 3: Study 2 Participant Savings and Investment Orientation
This table reports participants' average, standard deviation, minimum, and maximum values for three variables: the percentage of savings, the percentage of corporate bond investments, and the perceived importance of retirement savings rated on a 7-point Likert scale.

Percentage of Savings		**Percentage of Corporate Bonds**		**Importance (1 to 7)**	
Ave.	38.3	Ave.	19.0	Ave.	6.3
Std.	18.2	Std.	16.7	Std.	0.9
Min.	0	Min.	0	Min.	2
Max.	100	Max.	100	Max.	7

3.3. Study 3 - Confirmatory Composite Analysis (CCA)

3.3.1 Participants

The participants were a purposefully selected sample of students who had a keen interest in investments and savings. The sample consisted primarily of females, with an average age of 20. Most participants were of ethnic Chinese background and held an undergraduate degree. For a detailed breakdown of demographics, see Table 4.

Table 4: Study 3 Demographics
This table reports the demographic characteristics of the participants, including gender distribution, age statistics (minimum, maximum, average, and standard deviation), ethnic breakdown, and educational levels.

Gender		**Age**		**Ethnicity**		**Education**	
Male	78	Min.	18	Chinese	226	High school	7
Female	187	Max.	24	Malay	10	College	64
Prefer not to say	6	Ave.	20.1	Indian	26	Undergrad. Degree	196
		Std.	1.11	Other	6	Postgraduate Degree	0
				Prefer not to say	4	Prefer not to say	4

Again, to better understand the savings and investment orientation of the participants, they were asked an additional three questions: "What percentage of your income do you intend to save when you start working?", "What percentage of your savings would you invest in corporate bonds once you start working?", and "How important are your retirement savings to you?" using the 9-Point Importance Likert Scale as seen in Figure 3. The results are presented in Table 5, where participants suggest an average allocation of 40.7% to savings, with 21.6% of this amount being invested in corporate bonds.

Figure 3: 9-Point Likert Scale: Importance
The figure illustrates the 9-point Likert scale used by participants to rate each grouped statement based on its perceived importance, ranging from *Very Unimportant* to *Very Important*.

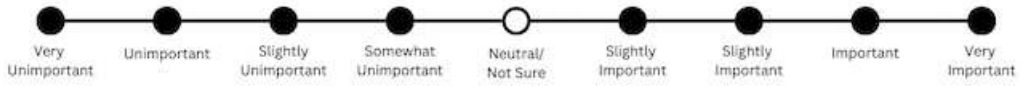


Table 5: Study 3 Participant Savings and Investment Orientation
This table reports participants' average, standard deviation, minimum, and maximum values for three variables: the percentage of savings, the percentage of corporate bond investments, and the perceived importance of retirement savings rated on a 9-point Likert scale.

Percentage of Savings		**Percentage of Corporate Bonds**		**Importance (1 to 9)**	
Ave.	40.7	Ave.	21.6	Ave.	7.0
Std.	16.6	Std.	16.0	Std.	1.2
Min.	0	Min.	0	Min.	4
Max.	80	Max.	70	Max.	9

3.3.2 Procedures

Study 3 examined the stability of the factors identified in Study 2. A Confirmatory Factor Analysis (CFA) was performed to assess the consistency of the factors. The Confirmatory Factor Analysis (CFA) was performed using the SmartPLS software. In this software, the equivalent of CFA is known as Confirmatory Composite Analysis (CCA), as described by Schuberth et al. (2018). The selection of PLS was made following the recommendation that researchers employ CCA in conjunction with PLS-SEM, wherein measurement models indirectly assess conceptual constructs (Hair Jr and Sarstedt, 2019), following the CCA procedure delineated by Hair Jr et al. (2020). Participants were required to evaluate the statements from Study 2 in terms of their relevance to one another. These were derived from the results in Table 7;

the two statements with no loadings above 0.400 were excluded, as were any items that showed cross-loadings. This led to Factor 10 being excluded, as both statements cross-loaded onto Factor 1. From the remaining items, the three strongest loading items were maintained where possible from each factor, whilst factors 8 and 9 only had two items. No retained factors had only a single statement representing them. This led to a total of 25 items being retained for Study 3, that appeared to be a fair trade-off between covering the entire domain and the possibility of participant fatigue.

The participants were again instructed to assess the significance of each statement, "What would influence you to invest in corporate bonds?" using a 7-point Likert scale, as shown in Figure 1. Additionally, for this study, participants were also asked how often they saw each statement, rating from "Never Seen (1)" to "Always seen (7)". The relevant importance represented the normative typology of what participants wanted to have, and the rating of how often they saw the statement described the descriptive typology of what they believed they currently had. These two typologies were analysed with a composite score through a paired T-test (Rosas and Ridings, 2017). Thus, the study sought to statistically verify whether there was a significant difference between what participants wanted and what they currently have.

4. Results

4.1. Study 1 - Mapping Initial Dimensions of Investor Cognition

4.1.1 Stage 1 - Create Statements & Stage 2 – Group Statements

During the statement creation phase, participants generated a final set of 55 statements that were considered relevant and demonstrated face validity. These statements, along with their collective average ratings for importance and feasibility. Subsequently, participants categorised and evaluated each statement individually, as presented in Table 6.

4.1.2 Stage 3 - Multi-dimensional Scaling

The multidimensional scaling (MDS) analysis achieved convergence after 31 iterations, when the participants formed groups based on the statements. The stress value obtained was 0.227, that is within the acceptable range suggested by Sturrock and Rocha (2000). This demonstrates a significant degree of coherence among the statement clusters generated by the participants, indicating that the groups were not formed arbitrarily. Figure 4 depicts the point map created using the multidimensional scaling (MDS) technique.

4.1.3 Stage 4 - Hierarchical Cluster Analysis & Stage 5 – Labelling Clusters

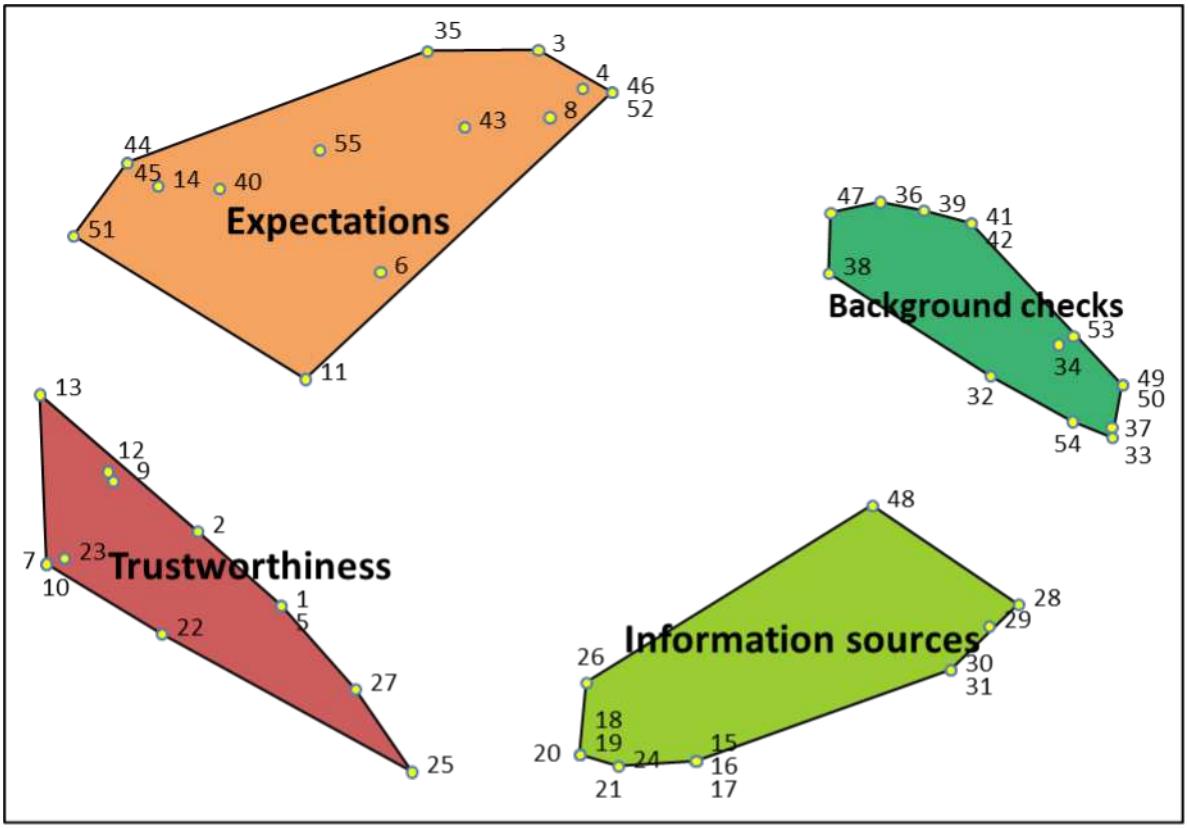
Upon evaluating each iteration of the Hierarchical Cluster Analysis (HCA), the participants unanimously agreed that a four-cluster solution was the optimal choice. Figure 3 provides visual evidence that supports this conclusion. Afterwards, the

Table 6: Statement & Cluster Ratings

The table reports the average importance and feasibility ratings assigned to statements, where the statements are categorised within four clusters: Trustworthiness, Information Sources, Expectations, and Background Checks.

Cluster: Trustworthiness (Ave. Imp: 1.42; Ave. Fea: 1.56)			
#	**Statement**	**Ave. Imp.**	**Ave. Fea.**
1	It will make sense for us to learn from successful person like warren buffet	2.00	1.57
2	Successful person with the mindset in Finance is the most important	2.29	2.00
5	I will try to read books by successful financial investors	1.14	1.14
7	Close friends/family have practical experience in the relevant field	2.00	2.29
9	Depends on their education and qualifications or experience in the finance industry	2.14	1.57
10	The personal reliability, how I trust the person	1.67	1.86
12	Friends and family in the relevant industry or have at least a decade's experience in investing with positive record	2.14	1.33
13	Being risk averse, investing through an asset manager which has a positive track record	0.86	2.33
22	Experts in finance that have a degree	1.57	1.43
23	Experience working in the finance industry	2.14	2.14
25	Information on informal sources e.g. perhaps analysis videos on youtube to give us a rough idea on what others think	-0.29	1.00
27	Word of mouth	-0.57	0.14
Cluster: Information Sources (Ave. Imp: 2.06; Ave. Fea: 1.52)			
#	**Statement**	**Ave. Imp.**	**Ave. Fea.**
15	Financial statements	2.29	1.71
16	Quarter report	2.29	1.43
17	Annual reports	2.00	1.57
18	Reliable news source such as News Strait Times	1.86	1.86
19	Reliable news source such as Bloomberg	2.00	1.86
20	Reliable news source such as Yahoo Finance	1.71	1.71
21	Peer reviewed article	1.71	0.29
24	Information on formal sources e.g. audited financial statements/annual reports	2.29	2.00
26	Knowledge from reliable sources	2.14	1.29
28	I would see the credit rating to determine whether to buy the corporate bond or not	2.29	1.29
29	I would look at past 5 yrs financial statements to determine whether they can pay back or not	2.29	1.71
30	See their cash flow	2.43	1.57
31	See their total liabilities	2.43	1.57
48	Publicly available information on the progress of the project	1.14	1.43
Cluster: Expectations (Ave. Imp: 1.17; Ave. Fea: 0.99)			
#	**Statement**	**Ave. Imp.**	**Ave. Fea.**
3	Preferable a platform where I can manage my own investments	2.43	2.00
4	Only with companies in industries Iâ€™m interested in	1.14	1.14
6	If there are close friends/family investing in it as well	-0.29	1.29
8	Win together, lose together	-0.71	0.43
11	Extremely low reliability from word of mouth by family and friends	0.43	1.14
14	Asset manager being able to bring a 6%-7%p.a. return through their asset allocation	1.71	1.29
35	Band wagoning, already having that group investors to portray that security	-0.71	1.00
40	A YTM/return that can be at least on par with annual inflation rates, ideally 1-2% above	2.29	0.14
43	It would be great if minimum investing money is rm100	0.29	-0.71
44	The ability to withdraw my principal amount in full before the maturity date in the event that the company is not disclosing any information	2.29	1.00
45	The ability to withdraw my principal amount in full before the maturity date in the event that the company has suspicious behaviour	2.57	1.00
46	If I can tolerate the risk	2.14	1.14
51	A relatively sustainable return	1.86	1.43
52	If I have sufficient knowledge about it	2.43	1.60
55	Have my money at least do something	-0.29	1.14
Cluster: Background Checks (Ave. Imp: 1.91; Ave. Fea: 1.38)			
#	**Statement**	**Ave. Imp.**	**Ave. Fea.**
32	It would be great if I can see how They pay back loan/corporate bonds too	2.14	1.43
33	See the company reputation	2.43	2.14
34	Legitimacy	2.57	1.43
36	Timeframe	1.43	0.83
37	A fully detailed prospectus detailing what they need the financing for	1.57	1.71
38	Why raise it through bonds rather than equity financing or other forms of debt financing	0.71	0.71
39	Risk compared to other investment instruments	2.00	1.43
41	Full knowledge on protective measures for myself in case the company liquidates	2.71	2.29
42	Full knowledge on protective measures for myself in case the company lacks the funds to repay	2.71	2.00
47	Considering the inflation rate throughout the investment period	2.00	0.86
49	How much of bond is spent	0.57	0.57
50	Where the bond it is spent	1.71	1.29
53	Full transparency of the projects/activities the bonds will back	2.14	1.14
54	Full accessibility to information of the projects/activities the bonds will back	2.00	1.43

Figure 4: Point & Cluster Map
This figure illustrates the point and cluster map generated from the Multidimensional Scaling (MDS) Analysis. Statements are grouped into clusters based on participants' sorting. The clusters represent key thematic areas identified during the sorting process.



participants reviewed the list of cluster names and, considering the size of each cluster, unanimously decided to label the four clusters as Expectations, Information Sources, Background Checks, and Expectations. Each of the four clusters consisted of statements ranging from 12 to 15 in number. The ratings provided by the participants were used to calculate the average ratings for the Importance and Feasibility of each cluster, as well as the cluster descriptors shown in Table 7.

Table 7: Cluster Summary
The table reports the cluster summary statistics, including the number of statements per cluster and the average, median, standard deviation, variance, minimum, and maximum ratings for both importance and feasibility.

		Trustworthiness	Information Sources	Expectations	Background Checks
Importance	Count	12	14	15	14
	Average	1.42	2.06	1.17	1.91
	Median	1.90	2.00	2.29	2.36
	Std. Dev.	0.93	0.34	1.21	0.64
	Variance	0.86	0.12	1.47	0.41
	Min	-0.57	1.14	-0.71	0.57
	Max	2.29	2.43	2.57	2.71
Feasibility	Average	1.57	1.52	1.00	1.38
	Median	1.60	1.14	0.14	1.86
	Std. Dev.	0.60	0.40	0.62	0.51
	Variance	0.36	0.16	0.39	0.26
	Min	0.14	0.29	-0.71	0.57
	Max	2.33	2.00	2.00	2.29

4.2. Study 2 - Identifying Underlying Factor Structure

The participants were instructed to assess the significance of each statement in "What would influence you to invest in corporate bonds?" using the 7-point Likert Scale as shown in Figure 1. The participants were recruited by fellow student research assistants who approached them on campus and provided either a paper-based survey or a QR code link to Google Forms. 300 participants completed the study, and the EFA was conducted using SPSS 27. The sampling adequacy was assessed using the Kaiser-Meyer-Olkin test, that yielded a value of 0.930, indicating that it falls within the required range. A Principal Axis exploratory factor analysis with Varimax rotation was conducted.

Table 7: Principal Axis Results

The table reports the Principal Axis Exploratory Factor Analysis (EFA) results. It presents the loading values of 55 statements across 10 extracted components, following Varimax rotation. Only loading values above 0.400 are considered meaningful for interpretation.

Item	Component									
	1	2	3	4	5	6	7	8	9	10
Legitimacy.	0.64									
See the company reputation.	0.662									
It would be great if I can see how They pay back loan/corporate bonds too.	0.75									
Full transparency of the projects/activities the bonds will back.	0.764									
Risk compared to other investment instruments.	0.709									
Considering the inflation rate throughout the investment period.	0.68									
Full accessibility to information of the projects/activities the bonds will back.	0.54				0.479					
Where the bond is spent.	0.434				0.594					
If I can tolerate the risk.	0.516					0.492				
A relatively sustainable return.	0.453					0.637				
Full knowledge on protective measures in case the company liquidates.	0.544									0.52
Full knowledge on protective measures if the company lacks funds to repay.	0.583									0.452
See their cash flow.		0.752								
See their total liabilities.		0.85								
Financial statements.		0.808								
Quarter report.		0.722								
Information from formal sources (audited financials, annual reports).		0.554								
I would see the credit rating to determine purchase decision.		0.483								
I would look at past 5 years financial statements.		0.506								
Annual reports.		0.536								
Successful finance experts are important.			0.629							
Education/qualifications/experience in finance.			0.635							
Friends/family with decade experience in investing.			0.694							
Experience working in finance industry.			0.668							
Close friends/family with practical experience.			0.646							
Personal reliability/trust in the person.			0.594							
Experts with finance degrees.			0.492							
Learn from successful investors (e.g., Warren Buffett).			0.514					0.476		
Reliable news source like Bloomberg.				0.776						
Reliable news source like News Straits Times.				0.805						
Reliable news source like Yahoo Finance.				0.808						
Peer-reviewed articles.				0.622						
Public information about project progress.				0.474						
Detailed prospectus on financing purpose.					0.627					
Timeframe of the investment.					0.595					
Rationale for bonds over other financing methods.					0.671					
How the bond money is spent.					0.736					
Withdraw principal early if suspicious behavior.						0.469				
Manage investments through a platform.						0.416				
Knowledge about investments.						0.425				
YTM/return matching inflation.						0.548				
Withdraw principal early if no disclosure.						0.764				
Asset manager achieving 6-7% p.a. return.						0.429				
Investing only in interesting industries.							0.503			
Low reliability from friends/family word of mouth.							0.502			
Minimum investment RM100.							0.766			
Friends/family also investing.							0.714			
Having my money actively invested.							0.632			
Win together, lose together.							0.409		0.645	
Reading books by successful investors.								0.631		
Informal sources (e.g., YouTube analysis videos).								0.614		
Bandwagon effect (group investing).									0.754	
Word of mouth.									0.502	
Knowledge from reliable sources.										
Risk-averse investing via asset managers.										

Table 7 returns 10 factors, shows the Principal Axis exploratory factor analysis results. The results present all loading values above 0.400 accompanied by statements such as "Knowledge from reliable sources", "Being risk-averse", "Investing through an asset manager with a positive track record", and no loadings above these values. Many statements are also cross-loaded, that would be considered in Study 3.

4.3. Study 3 - Validating Factor Stability and Reliability

The nine-factor EFA result in Study 2 was evaluated for fit using a CCA performed on the software SmartPLS 4.1.0.2. The nine-factor solution was found to have a discriminant validity issue between factors 8 and 9 in Study 2; therefore, these were merged into a single factor, and the analysis was rerun. An appropriate fit was found with an eight-factor solution, and the outer loadings are presented in Table 8.

The reliability and validity of the construct had acceptable values comprising Cronbach's alpha (α) > 0.700, $\rho_A > 0.700$, Composite Reliability (CR) > 0.700 and Average Variance Extracted (AVE) > 0.500, as seen in Table 9.

There is some ambiguity surrounding the cutoff point of HTMT, with Kline (2011) suggesting a value of 0.85 and Gold et al. (2001) suggesting a value of 0.90. However, only one value (bold in Table 10) marginally crossed the more stringent value indicated by Kline (2011). The full results are presented in Table 10.

A 2-tailed independent T-test was performed on the composite average scores between each construct. The normative value of what the participants wanted was compared to the descriptive value of what the participants perceived as available information. As shown in Table 11, across all factors, the participants' wants are not being fulfilled, as indicated by all results with a p-value of less than 0.001.

Table 8: Outer Loadings

The table reports the outer loadings of the statements on their respective factors, based on the eight-factor solution from the Principal Axis exploratory factor analysis conducted in Study 3. Only loadings above 0.400 are considered significant for interpretation.

Statements	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
It would be great if I can see how They pay back loan/corporate bonds too.	0.910							
Full transparency of the projects/activities the bonds will back.	0.752							
Risk compared to other investment instruments.	0.857							
See their cash flow.		0.817						
See their total liabilities.		0.934						
Financial statements.		0.903						
Friends and family in the relevant industry or have at least a decade's experience in investing with positive record.			0.921					
Experience working in the finance industry.			0.928					
Close friends/family have practical experience in the relevant field.			0.942					
Reliable news source such as Bloomberg.				0.844				
Reliable news source such as News Strait Times.				0.910				
Reliable news source such as Yahoo Finance.				0.908				
A fully detailed prospectus detailing what they need the financing for.					0.823			
Why raise it through bonds rather than equity financing or other forms of debt financing.					0.802			
How much of bond is spent.					0.873			
The ability to withdraw my principal amount in full before the maturity date in the event that the company has suspicious behaviour.						0.773		
A YTM/return that can be at least on par with annual inflation rates, ideally 1-2% above.						0.914		
The ability to withdraw my principal amount in full before the maturity date in the event that the company is not disclosing any information.						0.920		
It would be great if minimum investing money is rm100.							0.819	
If there are close friends/family investing in it as well.							0.900	
Have my money at least do something.							0.817	
I will try to read books by successful financial investors.								0.843
Information on informal sources e.g. perhaps analysis videos on YouTube to give us a rough idea on what others think.								0.871
Bandwagoning, already having that group investors to portray that security.								0.789
Word of mouth.								0.788

Table 9: Construct Reliability & Validity
The table reports the construct reliability and validity statistics for each factor in Study 3, including Cronbach's alpha, Composite Reliability (rho_A and rho_C), and Average Variance Extracted (AVE) values.

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Factor 1	0.798	0.839	0.879	0.710
Factor 2	0.863	0.879	0.916	0.786
Factor 3	0.922	0.923	0.951	0.865
Factor 4	0.865	0.868	0.918	0.788
Factor 5	0.779	0.782	0.872	0.694
Factor 6	0.841	0.875	0.904	0.760
Factor 7	0.801	0.806	0.883	0.716
Factor 8	0.841	0.848	0.894	0.678

Table 10: Heterotrait-Monotrait Ratio (HTMT)
The table reports the Heterotrait-Monotrait Ratio (HTMT) values between factors in Study 3, used to assess discriminant validity.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Factor 1								
Factor 2	0.817							
Factor 3	0.508	0.663						
Factor 4	0.644	0.676	0.799					
Factor 5	0.736	0.837	0.836	**0.853**				
Factor 6	0.830	0.748	0.396	0.622	0.810			
Factor 7	0.677	0.632	0.639	0.695	0.758	0.781		
Factor 8	0.521	0.628	0.712	0.715	0.830	0.640	0.850	

5. Discussion

5.1. Study 1: Surface Mapping Investor Cognition

The first study served as the foundational phase of the research, using group concept mapping to explore how investors cognitively organise the factors influencing corporate bond decisions. This phase revealed that participants' thinking extended beyond

Table 11: 2-tailed Independent T-test Results
The table reports the results of the 2-tailed independent T-tests conducted on the composite average scores between normative and descriptive ratings for each factor. It presents the mean differences, standard deviations, standard errors, 95% confidence intervals, t-values, degrees of freedom, and significance levels.

Normative - Descriptive	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Factor 1	2.354	4.532	0.275	1.812	2.896	8.551	270	.000
Factor 2	2.779	4.413	0.268	2.251	3.306	10.365	270	.000
Factor 3	2.790	4.397	0.267	2.264	3.316	10.443	270	.000
Factor 4	1.967	4.511	0.274	1.427	2.506	7.177	270	.000
Factor 5	3.137	3.651	0.222	2.700	3.573	14.141	270	.000
Factor 6	3.155	4.216	0.256	2.651	3.659	12.319	270	.000
Factor 7	1.959	4.755	0.289	1.391	2.528	6.784	270	.000
Factor 8	2.487	5.270	0.320	1.857	3.117	7.768	270	.000

classical metrics such as yield or credit rating. Instead, investors highlighted themes related to trust in information sources, clarity of communication, emotional comfort, and product familiarity. These themes echo earlier work in behavioural finance, suggesting that heuristics—such as the affect heuristic and familiarity bias—play a central role in shaping investment decisions (Kahneman and Tversky, 2013; Shefrin, 2002). Our findings align with Hadar et al. (2013), who emphasise the role of perceived understanding over formal knowledge in enabling financial engagement (Hadar et al., 2013). This also aligns with dual-process theory (Kahneman, 2011), as investors appeared to rely on intuitive judgments (System 1) when faced with unfamiliar bond products. Park and Sela (2018) argues that this avoidance behaviour is especially pronounced among affective decision-makers, who shy away from cognitively demanding choices (Park and Sela, 2018). Their focus on trust and simplicity also reflects bounded rationality (Simon, 1955), suggesting they used heuristics to manage limited information and cognitive effort. Individual investors remain a

largely untapped segment in corporate bond markets, despite growing evidence that their behaviour is shaped more by emotional engagement, trust cues, and contextual clarity than by technical product specifications (Clark-Murphy and Soutar, 2005; Ali et al., 2015; Clark-Murphy and Soutar, 2004). While these thematic categories were not formalised into factors at this stage, they provided a rich cognitive map that informed the structured rating and dimensional analysis conducted in the next phase. This demonstrates the utility of concept mapping in surfacing latent investor perceptions that may not be captured through traditional surveys or experimental designs (Trochim, 1989; Rosas and Kane, 2012).

5.2. Study 2: Structuring Perceptions Through Factor Analysis

Building on the exploratory mapping in Study 1, Study 2 employed EFA to quantify and structure the cognitive clusters identified in the initial stage. Using a sample of 300 participants, we extracted ten factors that reflected recurring cognitive priorities across participants. This statistical modelling confirmed that the qualitative categories generated earlier could be reliably grouped into latent dimensions, reinforcing the theoretical insight that investor decision-making is multidimensional. This pattern is consistent with literature on personal saving orientation, which suggests that some investors are predisposed to favour low-risk, income-generating assets (Dholakia et al., 2016). Notably, the EFA findings revealed that participants consistently rated psychological and emotional attributes, such as trust, reputational signals, and information accessibility, as more critical than technical product features. A pattern also documented in behavioural segmentation research and superannuation studies, highlighting the need for simplicity, framing, and personalisation (Clark-

Murphy and Soutar, 2005; Worthington, 2008; Kingston and Thorp, 2019). This aligns with research showing that information processing fluency and emotional trust significantly affect investment behaviour, even among financially literate individuals (Hilgert et al., 2003; Perry and Morris, 2005). The factor structure supports cognitive load theory (Sweller, 1988), indicating that investors prefer clear and emotionally intuitive cues to avoid processing strain. These preferences suggest that perception, not just content, drives attention and importance. These perceptual patterns may reflect underlying differences in planning orientation, as proposed by Lynch Jr et al. (2010), where more proactive individuals favour structured products.

5.3. Study 3: Validating the Behavioural Framework

Study 3 tested and validated the conceptual structure using CCA within a PLS-SEM framework, employing a new sample of 271 respondents. The analysis refined the earlier ten-factor model down to eight statistically robust dimensions. These included transparency of information, trust in sources, clarity of returns, perceived risk protection, emotional ease, issuer credibility, language accessibility, and product familiarity. Crucially, the study measured both importance (normative preference) and experience (descriptive reality), revealing significant perceptual gaps across all factors ($p < .001$). This aligns with personal finance literature, that shows that negative past experiences, cognitive overload, and low product familiarity often hinder engagement, even when technical literacy is sufficient (Raut, 2020; Ali et al., 2015). This gap-based analysis reflects the behavioural disconnect between what investors value and what they receive in practice, a disconnect previously observed in broader financial literacy research (Fernandes et al., 2014). This disconnect may be smaller

for individuals with strong future-oriented mindsets, who perceive long-term returns and income streams as personally meaningful (Bartels and Urminsky, 2015). This is consistent with Hibbert et al. (2013), who found that financial literacy moderates risk aversion, suggesting that perceived comprehension can improve investor confidence and engagement, even when technical knowledge is limited. The inclusion of CCA provided methodological rigour to this insight, showing that these psychological constructs are not just anecdotal impressions but can be formally modelled and statistically validated (Hair Jr et al., 2020; Schuberth et al., 2018). The observed perception gaps are consistent with all three frameworks: dual-process theory explains heuristic reliance under complexity, bounded rationality accounts for satisficing behaviour, and cognitive load theory highlights how technical detail may overwhelm and disengage investors (Kahneman, 2011; Simon, 1955; Sweller, 1988).

5.4. Summary

The three studies present a cohesive narrative of how investor cognition in corporate bond markets is shaped, structured, and confirmed. The concept mapping phase (Study 1) uncovered the raw cognitive terrain; EFA (Study 2) provided dimensionality; and CCA (Study 3) validated those dimensions with empirical precision. Across all studies, findings indicate a behavioural segmentation of investors that challenges the assumption of rational, homogeneous actors in fixed-income markets. Rather than viewing investors as data processors optimising for yield and credit risk, our results support the view that investment decisions are filtered through psychological, social, and informational lenses. In particular, those with strong saving orientations may find corporate bonds more suitable if the offering aligns with their conservative

financial disposition (Dholakia et al., 2016). By centering the investor's voice and validating their cognitive schema, this study contributes a novel framework for understanding how trust, comprehension, and affective response shape corporate bond engagement. However, emotional complexity must be considered, for affective investors, reducing stress and complexity may be more critical than improving access alone (Park and Sela, 2018). It offers theoretical enrichment and practical guidance for financial educators, communicators, and product designers.

The alignment between our Malaysian findings and Indian retail bond behaviour underscores how behavioural drivers may generalise across similar emerging market contexts (**?**). Institutions may consider tailoring outreach based on an investor's propensity to plan, a known predictor of structured financial engagement (Lynch Jr et al., 2010). Educational efforts should be tailored to enhance both subjective confidence and technical accuracy, in line with the findings by (Hadar et al., 2013). These contributions reinforce broader personal finance findings that investor engagement hinges on emotional safety, narrative clarity, and segmentation by behavioural traits—not merely risk-return optimisation (Clark-Murphy and Soutar, 2004; Prajapati et al., 2021). Segmenting by temporal orientation, as suggested by Bartels and Urminsky (2015), could further refine bond product targeting. Dual-process theory, bounded rationality, and cognitive load theory provide a coherent framework for interpreting how investors simplify, structure, and respond to bond investment decisions across all three studies.

6. Conclusion

While much of the academic literature on corporate bonds has emphasised institutional perspectives and market structure, relatively little is known about how individual investors perceive, interpret, and engage with these products from a personal finance standpoint. In response to this gap, we adopted a three-stage concept mapping framework to explore the cognitive and emotional architecture of investor decision-making in the corporate bond space. In Study 1, we conducted a structured brainstorming session to generate 55 statements related to investment decisions. These were sorted and rated using multidimensional scaling and hierarchical clustering techniques to identify thematic domains (Trochim, 1989; Rosas and Kane, 2012). Study 2 employed EFA on a sample of 300 to extract an initial ten-factor model, following best practices for behavioral construct identification (Howard, 2016). In Study 3, CCA within a PLS-SEM framework was applied to a new sample of 271 participants to validate and refine the factor structure (Hair Jr et al., 2020; Schuberth et al., 2018). This iterative design culminated in an eight-factor model that reveals how investors cognitively frame the decision-making process for corporate bonds.

Our analysis validated an eight-factor structure that reflects how investors perceive and prioritise various features of corporate bond investments. These factors include transparency of information, trust in the source, clarity of returns, perceived institutional credibility, risk understanding, emotional comfort, accessibility of communication, and product familiarity. Across these dimensions, we observed statistically significant differences ($p < .001$) between what investors deemed essential and what they reported encountering in practice. These perception gaps, particularly

in source trustworthiness and plain language communication, resonate with broader findings in behavioural finance and financial literacy research (Hilgert et al., 2003; Lusardi and Mitchell, 2014; Kahneman, 2011). Moreover, recent findings suggest that individuals who are less financially literate and younger are more responsive to simplified, emotionally accessible financial information. This suggests that cognitive preferences, rather than technical depth, play a more substantial role in shaping engagement and decision-making (Bucher-Koenen et al., 2022).

These findings challenge the prevailing view that investors in bond markets behave rationally and maximise yields. Instead, they underscore the role of cognitive and emotional filters in shaping investment behaviour. This gap is supported by Dharani et al. (2019), who demonstrated that religious and cultural values influence investment behaviour, underscoring the need for more behaviour-focused research in bond markets. Their work aligns with our findings on how trust and familiarity—often culturally embedded—outweigh traditional financial metrics. Fatemi et al. (2018) also demonstrated that ethical disclosures and transparency enhance investor trust and perceived credibility, similar to how brand familiarity influences bond selection. Dual-process theory (Kahneman, 2011) explains why investors favour trust, familiarity, and simplicity—attributes aligned with fast, heuristic thinking. Keffala (2021) similarly found that ethical alignment and cognitive simplicity in Islamic finance products improved investor appeal, echoing our findings on relatable product framing. Bounded rationality (Simon, 1955) accounts for how investors navigate uncertainty by selecting "satisficing" options when complete optimisation is cognitively impractical. Additionally, cognitive load theory (Sweller, 1988) helps explain why

overly technical financial disclosures may discourage engagement and deepen the gap between normative expectations and perceived availability. These cognitive models contextualise our findings within a broader behavioural framework, offering insights into why financial communication and investor experience remain misaligned.

For industry practitioners, these results emphasise the importance of designing investor communications that speak not just to financial logic but to psychological intuitions. Financial advisors, brokers, and platform designers must consider that emotional resonance, source credibility, and clarity are potent determinants of investor action (Hastings et al., 2013; Perry and Morris, 2005). Rather than overloading retail investors with technical disclosures, institutions could benefit from presenting decision-critical information in plain language, using trusted intermediaries, and reinforcing transparency through design. Retail investor studies have similarly emphasised that framing, trust signals, and behavioural nudges are more effective than purely informational interventions (Kingston and Thorp, 2019; Clark-Murphy and Soutar, 2004; Prajapati et al., 2021). For regulators and educators, the findings support a behavioural approach to disclosure that accounts for how individuals absorb and act on information, not just how it is supplied. As concept mapping reveals, investor behaviour is rarely the outcome of a single variable; it results from intersecting perceptions, priorities, and psychological frames. While concept mapping is underutilised in financial research, it has demonstrated robust validity across the social sciences, and when paired with composite modelling, offers a replicable, statistically grounded method for surfacing latent investor cognition.

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