



Cognitive Anchors in Price Interpretation: Consumer Segmentation Evidence from Credence-Based Professional Services

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Abstract

This study moves beyond average price effects to examine systematic heterogeneity in how consumers cognitively construct meaning from ambiguous prices in credence-based professional services. We propose a dual-anchor framework—comprising the External Normative Reference Anchor (ENRA) and the Internal Value Identification Anchor (IVIA)—and validate it using survey data from 676 psychological counseling consumers. Factor and cluster analyses identify three distinct segments: Normative Anchors, Value Identifiers, and Cognitively Ambivalent consumers. These segments differ significantly in price-quality beliefs and selected perceived barriers (stigma and price sensitivity) but not in short-term choice intentions, suggesting that heterogeneity primarily shapes belief formation rather than immediate behavior. The findings advance behavioral pricing

theory and provide a practical segmentation tool for tailoring pricing communications across various credence-based services. Our framework thus offers a cognitive microstructure for understanding how price signals are decoded in markets where quality is inherently unobservable, a challenge central to the governance of many professional service industries.

Keywords: price interpretation, cognitive anchors, credence-based services, behavioral pricing, market segmentation.

JEL classification: D12; D83; D91

1 Introduction

Price remains one of the most salient—yet ambiguous—cues in professional service evaluation. Unlike tangible products, services such as psychological counseling are characterized by intangibility, high information asymmetry, and reliance on trust, all of which complicate how price



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information is interpreted [1]. In credence-based services, where quality is difficult to assess even after consumption [2], price often functions not merely as a financial signal but as a symbolic signal conveying legitimacy, expected outcomes, or relational value.

Existing pricing research has predominantly examined average consumer responses to price levels, price changes, or presentation formats, implicitly assuming relative homogeneity in how price meaning is constructed. However, behavioral economics suggests that under conditions of uncertainty, individuals systematically rely on simplifying heuristics, neglect correlations among signals, and engage in biased belief updating [3]. In such contexts, price constitutes a complex cue embedded within a constellation of correlated signals—including professional credentials, reputation, and institutional norms. Analyses focused on average effects therefore risk obscuring systematic heterogeneity in the interpretive strategies consumers employ—heterogeneity that experimental evidence suggests is shaped by the presence of anchor information in the price judgment process [4]. Critically, this heterogeneity is not merely noise but may reflect stable, latent cognitive structures that determine how market signals are processed. As a result, a fundamental question remains insufficiently addressed: why does the same service price appear reasonable to some consumers, excessive to others, and largely meaningless to still others?

To address this gap, we introduce a cognitive anchor framework that conceptualizes price interpretation in credence-based services as a process of heuristic meaning construction. Specifically, we propose two distinct interpretive anchors through which consumers derive meaning from ambiguous service prices. The first, an External Normative Reference Anchor (ENRA), reflects reliance on externally established benchmarks—such as professional certifications, market averages, or regulatory standards—to assess price legitimacy and comparability. The second, an Internal Value Identification Anchor (IVIA), captures an orientation toward personal relevance, anticipated experiential outcomes, and relational alignment. Both anchors function as heuristic substitutes for direct quality verification, consistent with attribute-substitution mechanisms articulated in dual-process theories of judgment and decision-making [5].

Building on this framework, the present study addresses three research questions:

- **RQ1:** How do consumers cognitively structure their interpretation of ambiguous prices in credence-based professional services?
- **RQ2:** What distinct consumer segments emerge based on their reliance on external normative versus internal value-based cognitive anchors?
- **RQ3:** How do these cognitively defined segments differ in their (a) price–quality beliefs, (b) perceived service barriers, and (c) demographic profiles?

We examine these questions in the context of psychological counseling in China—a prototypical credence-based service market characterized by rapidly growing demand, heterogeneous pricing practices, and persistent information opacity. Using survey data from 676 consumers, we empirically validate the proposed dual-anchor structure, identify cognition-based segments through cluster analysis, and assess segment-level differences across key perceptual and demographic outcomes.

By shifting analytical attention from what price interpretations consumers report to how they cognitively construct price meaning under uncertainty, this study advances behavioral pricing theory and offers a cognition-based approach to market segmentation in professional services. In doing so, it responds to recent calls for deeper psychological accounts of consumer heterogeneity in service research and provides actionable insights for designing more effective pricing communications in hard-to-evaluate service contexts.

The remainder of the paper is organized as follows. The next section develops the theoretical background and presents the research hypotheses. This is followed by a description of the methodology, presentation of the empirical results, and discussion of their implications in relation to the research questions. The final section highlights the theoretical and managerial contributions, acknowledges study limitations, and outlines directions for future research.

2 Theoretical Background and Conceptual Framework

2.1 Cognitive Anchors as Interpretive Heuristics

We conceptualize cognitive anchors as interpretive heuristics that guide how consumers construct meaning from ambiguous price signals under uncertainty. Drawing on attribute-substitution theory [5], we posit that when evaluating complex service value, consumers often substitute the target

judgment (“Is this price justified?”) with more accessible heuristic cues. For some, this substitution emphasizes external-normative attributes (e.g., “Does this price align with market standards?”); for others, it emphasizes internal-value attributes (e.g., “Does this service feel personally meaningful?”). The constructs of External Normative Reference Anchor (ENRA) and Internal Value Identification Anchor (IVIA) capture these distinct interpretive pathways. This conceptualization aligns with behavioral evidence that, in complex information environments, individuals rely on simplifying heuristics and may neglect correlations among cues [3].

2.2 External Normative Reference Anchor (ENRA)

The ENRA reflects a cognitive orientation in which consumers interpret prices primarily through externally established norms, institutional rules, and widely recognized market benchmarks. In credence-based services, where direct quality verification is costly or impossible [2], conformity to such norms provides a low-effort heuristic for inferring credibility and reducing perceived risk [6, 7].

For consumers anchored in ENRA, price is assessed in terms of legitimacy, rule compliance, and alignment with accepted standards—such as professional certifications, regulatory oversight, or prevailing industry pricing conventions—rather than personal significance. This legitimacy-seeking interpretation is consistent with institutional theory, which posits that adherence to norms signals reliability and trustworthiness even in the absence of direct quality evidence. Thus, under ENRA, price functions as a cue for institutional alignment and procedural reliability.

2.3 Internal Value Identification Anchor (IVIA)

In contrast, the IVIA reflects a cognitive orientation grounded in perceived personal relevance, relational expectations, and anticipated experiential outcomes. Consumers anchored in IVIA evaluate price worthiness based on whether the service aligns with their personal goals, emotional needs, or desired self-transformation.

This anchor is especially salient in affect-laden, high-involvement decisions, where projected utility is deeply personal. Research on therapeutic alliances, such as in psychotherapy, highlights that perceived relational fit and expectations of meaningful outcomes are central to engagement in professional services [8]. The IVIA thus captures a meaning-oriented mode of price interpretation, consistent with service-dominant

logic emphasizing co-created value determined by the beneficiary. It also aligns with broader research underscoring the role of personal perceptions in consumer decision-making. Here, price is integrated into a broader, subjective judgment of personal and relational value under uncertainty.

2.4 Research Questions and Hypothesis Development

Drawing on attribute-substitution theory [5], this study posits that under conditions of uncertainty, consumers substitute complex judgments regarding price justification with more cognitively accessible heuristic cues. As Shiv, Carmon, and Ariely [9] demonstrated experimentally, the expectations that consumers form in response to a price—independent of objective quality—can systematically alter their actual experience of a service, a finding that directly supports the notion that price meaning is constructed through consumers’ cognitive orientation rather than residing in the price signal itself. In credence-based professional services—where service quality is difficult to verify *ex ante* and remains only partially observable *ex post* through subjective psychological experiences—price interpretation is therefore expected to follow distinct heuristic pathways.

Specifically, we theorize two dominant cognitive anchors. The first is an External Normative Reference Anchor (ENRA), in which consumers rely on socially or institutionally defined benchmarks (e.g., prevailing market prices or professional norms) to assess price appropriateness. The second is an Internal Value Identification Anchor (IVIA), whereby consumers evaluate prices based on personally perceived value, goals, or expected benefits, consistent with research on customer perceived value in service contexts. In response to RQ1, which examines how consumers cognitively structure price interpretation under uncertainty, we hypothesize:

- **H1:** Consumers differ systematically in their reliance on an External Normative Reference Anchor (ENRA) versus an Internal Value Identification Anchor (IVIA) when interpreting professional service prices.

If consumers rely on distinct cognitive anchors, such differences should aggregate into identifiable patterns at the market level. Market segmentation remains a foundational principle in promotion strategy, enabling firms to tailor offerings and communications to heterogeneous consumer groups. Extending beyond

traditional demographic approaches, segmentation grounded in psychographic and cognitive dimensions has been shown to offer deeper insight into consumer motivations and decision processes. Accordingly, in response to RQ2, which addresses whether cognition-based segments emerge from anchor reliance, we hypothesize:

- **H2:** Differences in cognitive anchoring give rise to distinct consumer segments characterized by systematically different configurations of ENRA and IVIA.

Finally, to establish the consequential validity of these cognition-based segments, the study examines whether they differ meaningfully on theoretically and managerially relevant outcomes. The price–quality inference literature suggests that price often functions as a quality signal under uncertainty [1], although this role is fundamentally complicated in credence goods markets: as Dulleck and Kerschbamer [10] demonstrate, consumers in such markets cannot verify whether the treatment they receive is appropriate even after consumption, rendering price an especially ambiguous and potentially misleading quality cue. Similarly, perceived value and perceived barriers play critical roles in shaping service engagement and adoption. Because cognitive anchors shape how price information is processed and evaluated, segments defined by different anchor configurations should exhibit systematic differences in these downstream outcomes. In response to RQ3, we hypothesize:

- **H3:** Consumer segments defined by different cognitive anchor configurations differ significantly in their (a) price–quality beliefs, (b) perceived service barriers, and (c) demographic profiles.

3 Methodology

3.1 Research Context and Data Collection

This study was situated in the Chinese psychological counseling market, a prototypical credence-based professional service context characterized by high information asymmetry, limited price transparency, and substantial variation in service fees. In such settings, consumers often lack the expertise required to assess service quality *ex ante*, while *ex post* evaluations remain cognitively mediated and only partially informative, thereby increasing reliance on cognitive heuristics when interpreting price information.

Data were collected through a structured online survey administered via the Wenjuanxing online survey

platform between April 2025 and November 2025. Respondents were required to meet two screening criteria: (1) being at least 18 years old and (2) having prior experience with, or a concrete intention to purchase, psychological counseling services. After excluding incomplete and inattentive responses, a total of 676 valid questionnaires were retained for subsequent analyses.

3.2 Measurement Development

The measurement of cognitive anchors in price interpretation followed a multi-stage scale development process to ensure content validity and contextual relevance. First, the domains for this study were identified through an extensive review of literature on price perception, reference price theory, and professional service evaluation. In particular, Zeithaml [1] provides a theoretical framework on consumer perceptions of price, quality, and value, offering foundational support for the conceptualization of price-related constructs. Second, semi-structured interviews with practicing counselors and experienced service users were conducted to refine item wording and adapt constructs to the psychological counseling context. Third, a pilot test was carried out to assess item clarity and reliability, leading to minor revisions.

All constructs were measured using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). ENRA captured the extent to which consumers relied on external price cues, such as market averages, institutional norms, and platform-based comparisons, when interpreting counseling fees. IVIA measured consumers' reliance on internal standards, including perceived personal need, emotional value, and self-assessed willingness to pay. Demographic variables (age, gender, education, and income) and prior counseling experience were included as control variables.

3.3 Factor Structure and Reliability Assessment

Exploratory factor analysis (EFA) was conducted using principal axis factoring with oblique rotation to assess the dimensionality of the cognitive anchor items. The results supported a two-factor solution corresponding to ENRA and IVIA. The rotated factor loadings are presented in Table 1, which shows that all retained items exhibited primary loadings above .60 with minimal cross-loadings, confirming a clear two-dimensional structure.

Confirmatory factor analysis (CFA) was subsequently

Table 1. Rotated Factor Loadings from Exploratory Factor Analysis ($N = 676$).

Item Content	Factor 1 (ENRA)	Factor 2 (IVIA)	Communality
1. Government should set price ceilings	0.839	0.166	0.732
2. Local consumption level affects pricing	0.810	0.302	0.747
3. Industry average price as reference	0.782	0.329	0.720
4. Additional psychological assessment reports	0.727	0.249	0.590
5. Counselor's professional certification	0.668	0.381	0.591
6. Service format (online/offline)	0.645	0.279	0.493
7. Payment ability-based tiered pricing	0.604	0.453	0.570
8. Counselor's years of experience	0.582	0.470	0.560
9. Counselor's cultural background match	0.591	0.447	0.550
10. Offline face-to-face counseling effectiveness	0.695	0.352	0.607
11. Willingness to pay 20% premium for effectiveness	0.133	0.833	0.712
12. Counselor's social reputation	0.331	0.755	0.679
13. Market supply-demand determines pricing	0.393	0.687	0.627
14. Online counseling convenience	0.398	0.679	0.619

Note. Rotated factor loadings from exploratory factor analysis using principal axis factoring with oblique rotation. All primary and cross-loadings are displayed; loadings below 0.40 are shown for completeness. ENRA = External Normative Reference Anchor; IVIA = Internal Value Identification Anchor.

performed using maximum likelihood estimation. The model demonstrated acceptable overall fit ($CFI = .900$; $SRMR = .041$), although the RMSEA value (.108) exceeds conventional cutoffs. The model has relatively few degrees of freedom ($df = 76$), a condition under which RMSEA is known to be upwardly biased; recent methodological work cautions against its rigid interpretation in such cases [12]. We therefore rely on the joint consideration of multiple fit indices rather than any single statistic.

All constructs demonstrated satisfactory internal consistency, with Cronbach's alpha and composite reliability values exceeding the .70 threshold. Convergent validity was supported by average variance extracted (AVE) values above .50. Discriminant validity was assessed using the Fornell–Larcker criterion [11], which compares the square root of the AVE for each construct with its correlations with other constructs to ensure conceptual distinctiveness.

3.4 Cluster Analysis Procedure

To identify heterogeneous patterns of cognitive anchor configurations, a K -means cluster analysis was conducted using standardized ENRA and IVIA scores. Solutions ranging from two to four clusters were examined. The three-cluster solution was selected based on interpretability, cluster size balance, and internal validity considerations.

The average silhouette coefficient for the three-cluster solution was 0.505, indicating satisfactory internal consistency and separation among clusters. Each cluster was subsequently profiled in terms of anchor reliance patterns, price-quality beliefs, perceived access barriers, and demographic characteristics. To ensure solution stability, the K -means algorithm was run with multiple random initializations (50 restarts), and the solution with the lowest within-cluster sum of squares was retained. Segment differences on the outcomes specified in H3 were subsequently tested using analysis of variance (ANOVA) for continuous variables and chi-square tests for categorical variables.

4 Results

4.1 Descriptive Statistics

Means, standard deviations, and intercorrelations for the key study variables are presented in Table 2. The two cognitive anchors, ENRA and IVIA, were empirically independent ($r \approx .00$), confirming their distinctiveness. Notably, IVIA showed significant negative correlations with both price-quality and price-effectiveness belief measures (both $ps < .01$). Given that higher values on these belief variables indicate greater rejection of price as a quality signal, this suggests that consumers who rely more on internal value identification are less likely to believe that price signals quality or effectiveness. A weak but significant positive association was also observed between ENRA

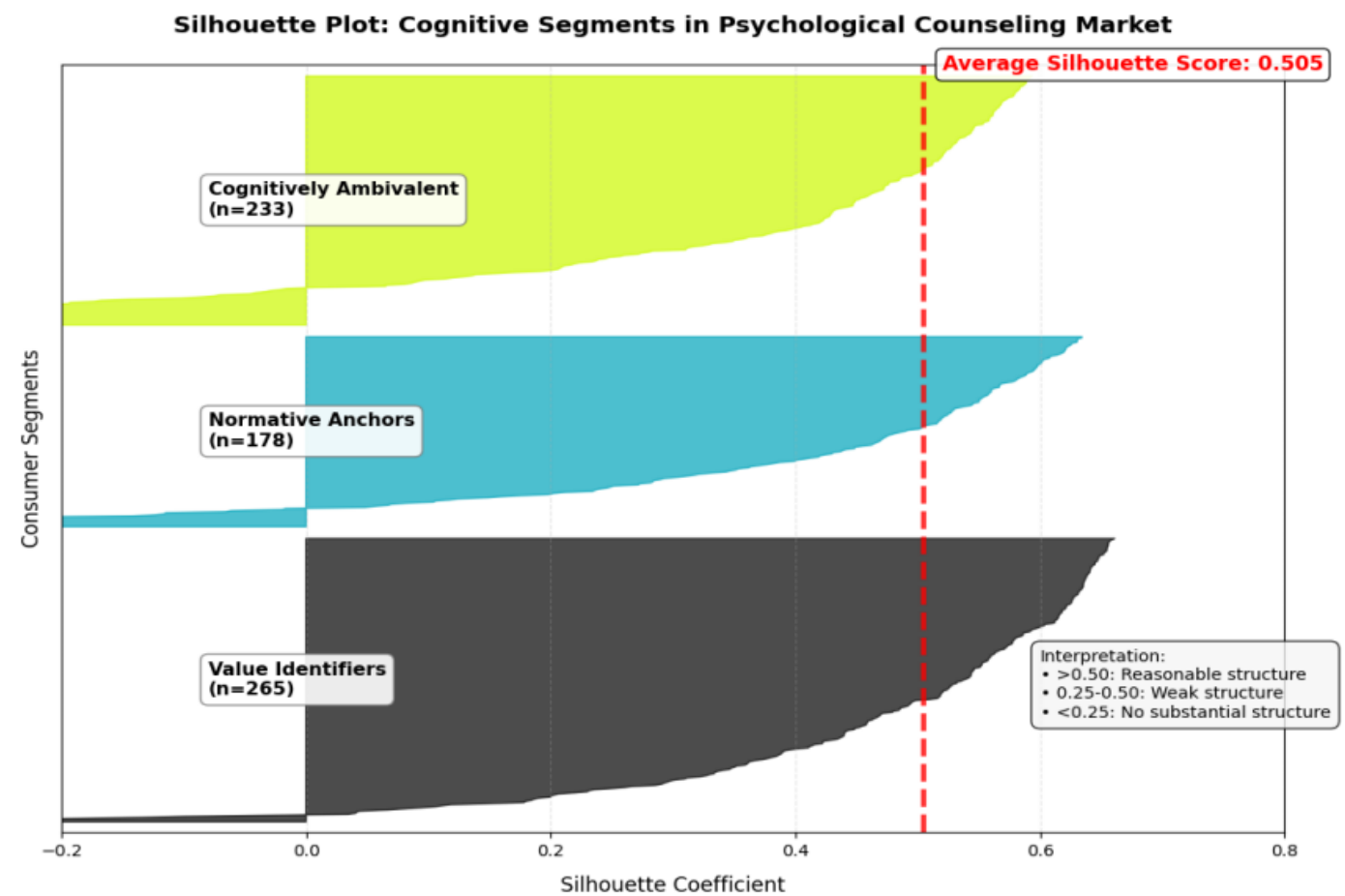


Figure 1. Silhouette plot supporting the three-cluster solution.

and the price-effectiveness belief measure ($r = .08$, $p < .05$), suggesting that consumers who rely more heavily on external normative anchors are marginally more inclined to accept price as a signal of service effectiveness.

4.2 Identification of Consumer Segments Based on Cognitive Anchors

To test H1 and H2, a *K*-means cluster analysis was conducted using standardized scores of the External Normative Reference Anchor (ENRA) and the Internal Value Identification Anchor (IVIA). A three-cluster solution was selected based on interpretability, cluster size balance, and internal validity criteria.

The cognitive anchor profiles of the three resulting segments are presented in Table 3. Based on their distinct score configurations, the segments were labeled Normative Anchors, Value Identifiers, and Cognitively Ambivalent.

As shown in Table 3, the three segments differed significantly on both ENRA ($F = 435.68$, $p < .001$) and IVIA ($F = 733.13$, $p < .001$). These results

support H1, confirming systematic heterogeneity in consumers' reliance on external versus internal cognitive anchors when interpreting prices.

The validity of the three-cluster solution was further assessed. The average silhouette coefficient was 0.505, and the silhouette plot (Figure 1) indicates satisfactory within-cluster cohesion and between-cluster separation, supporting the distinctness of the identified segments.

The emergence of three statistically distinct and theoretically interpretable clusters supports H2, indicating that differences in cognitive anchoring manifest as meaningful consumer segments.

4.3 Differences in Price-Quality Beliefs and Perceived Barriers Across Segments

As shown in Table 4, the findings offered partial support for H3. The consumer segments differed significantly in their price-quality beliefs and in two of the four perceived barriers (stigma concerns and price sensitivity). However, no significant differences were observed for the remaining two barriers: distrust and

Table 2. Means, Standard Deviations, and Correlations Among Key Variables.

Variable	M	SD	1	2	3	4	5
1. ENRA	0.00	1.00	—				
2. IVIA	0.00	1.00	.00	—			
3. Service Choice Intention	1.07	1.29	.02	.10*	—		
4. Price-Quality Beliefs (No)	0.42	0.49	-.01	-.12**	-.01	—	
5. Price-Effectiveness Belief (No)	0.46	0.50	.08*	-.16**	-.03	.65**	—

Note. $N = 676$ for ENRA, IVIA, beliefs; $N = 620$ for service intention. Belief means indicate the proportion disagreeing that price signals quality/effectiveness. * $p < .05$, ** $p < .01$. Higher values on the price-quality belief variables indicate rejection of the notion that price signals quality/effectiveness.

Table 3. Consumer segments' scores on pricing cognition dimensions.

Consumer Segment	n	IVIA	ENRA
Value Identifiers	265	0.93 ± 0.51	0.37 ± 0.57
Normative Anchors	178	-1.13 ± 0.64	0.77 ± 0.71
Cognitively Ambivalent	233	-0.19 ± 0.56	-1.01 ± 0.72
ANOVA F		733.13*	435.68*

Note. Values are standardized factor scores ($M \pm SD$). * $p < .001$.

information opacity.

These systematic differences in beliefs and perceived barriers support H3, confirming that consumer segments defined by cognitive anchor configurations vary meaningfully in their attitudinal and perceptual responses.

4.4 Segment Differences in Service Choice Intentions and Demographic Profiles

We further examined whether the identified cognitive segments differed in their behavioral intentions and demographic profiles. As reported above, no significant association was found between segment membership and service choice intention ($\chi^2(8) = 9.64, p = .291$). The distribution of choice likelihood across response categories did not differ systematically among the Normative Anchors, Value Identifiers, and Cognitively Ambivalent segments.

In contrast, segment membership was strongly associated with key demographic characteristics (Table 5). Chi-square analyses revealed significant differences in age distribution ($\chi^2 = 39.00, df = 8, p < .001$), education level ($\chi^2 = 25.36, df = 6, p < .001$), monthly income ($\chi^2 = 28.78, df = 10, p = .001$), and occupational category ($\chi^2 = 56.02, df = 14, p < .001$).

These findings offer partial support for H3. While the segments did not differ in their immediate behavioral intention, they were demographically distinct. This

pattern underscores that segmentation based on cognitive anchors captures meaningful heterogeneity that is related to, but not reducible to, traditional demographic classifications.

4.5 Summary of Hypothesis Testing Results

As shown in Table 6, the hypothesis testing outcomes are summarized. Hypotheses 1 (H1) and 2 (H2) received strong empirical support. The results confirm that consumers systematically differ in their reliance on external versus internal cognitive anchors when interpreting prices, and that these differences form three distinct and stable consumer segments.

H3 was partially supported. Significant between-segment differences were found for price-quality beliefs, two of the four perceived barriers (stigma and price sensitivity), and demographic profiles, but not for service choice intention.

Taken together, these results demonstrate that cognitive anchors underlie systematic heterogeneity in price interpretation (H1) and enable meaningful cognitive segmentation (H2). The segments further differ in key attitudinal and demographic dimensions, though not in immediate behavioral intention (H3). These empirical patterns invite a deeper discussion of the theoretical and practical implications of cognitive anchoring in professional service markets.

Table 4. Differences Across Consumer Segments in Price–Quality Beliefs and Perceived Service Barriers.

Variable / Item	Normative Anchors	Value Identifiers	Cognitively Ambivalent	Test Statistic	p
<i>Price–Quality Beliefs</i>					
Belief: Prices $\neq$ Quality (%)	32.98	34.74	32.28	$\chi^2(2) = 11.47$	< .01
Prices $\neq$ Effectiveness (%)	35.03	33.76	31.21	$\chi^2(2) = 23.09$	< .001
<i>Perceived Service Barriers</i>					
Stigma Concerns (%)	18.80	42.11	39.10	$\chi^2(2) = 14.05$	< .001
Price Sensitivity (%)	30.05	35.52	34.43	$\chi^2(2) = 6.10$	< .05
Distrust Effects (%)	26.43	37.24	36.34	$\chi^2(2) = 0.18$	n.s.
Information Opacity (%)	22.60	38.70	38.70	$\chi^2(2) = 4.63$	n.s.

Note. Percentages indicate the proportion of respondents within each segment endorsing the belief or barrier. Beliefs $N = 676$; Barriers $N = 620$ (professional counselors excluded). Segments are labeled based on their cognitive anchor profiles (see Table 3).

Table 5. Selected Demographic Characteristics by Consumer Segment.

Demographic Variable	Category	Normative Anchors (%)	Value Identifiers (%)	Cognitively Ambivalent (%)	$\chi^2(df)$	p
Age Group	18–25 years	28.40	33.64	37.96	39.00(8)	< .001
	26–35 years	25.56	48.89	25.56		
	36–45 years	16.36	50.91	32.73		
	46+ years	33.33	12.50	54.17		
Education Level	Bachelor's degree	26.97	40.82	32.21	25.36(6)	< .001
	Master's or above	14.29	54.76	30.95		
Monthly Income (Yuan)	3,001–6,000	25.20	45.67	29.13	28.78(10)	.001
	6,001–10,000	22.06	47.06	30.88		
	>10,000	20.00	46.67	33.33		
Occupation	Enterprise Employees	16.52	57.39	26.09	56.02(14)	< .001

Note. Percentages are row percentages. Demographic analyses use the full sample ($N = 676$). Only selected categories are displayed for each variable; chi-square tests were conducted on the full distribution.

Table 6. Summary of Hypothesis Testing Results.

Hypothesis	Core Proposition	Verdict
H1	Systematic difference in ENRA vs. IVIA reliance	Supported
H2	Difference manifests as distinct segments	Supported
H3	Segments differ in beliefs, barriers, and demographics (but not intention)	Partially Supported

(IVIA)—with a negligible correlation ($r \approx .00$) confirms that they constitute distinct cognitive pathways, rather than opposite ends of a single evaluative continuum. This finding advances attribute-substitution theory by specifying the heuristic attributes consumers substitute when evaluating ambiguous service prices: some rely on externally legitimized benchmarks (e.g., perceived market standards), whereas others pivot toward internally calibrated assessments of personal value.

5 Discussion

5.1 The Dual-Anchor Cognitive Structure of Price Interpretation

The factor-analytic results provide clear empirical support for the proposed dual-anchor framework, directly addressing RQ1, which concerns how consumers cognitively structure price meaning under uncertainty. The emergence of two orthogonal factors—External Normative Reference Anchor (ENRA) and Internal Value Identification Anchor

The observed orthogonality further suggests that belief formation under informational complexity is channeled through selective attention to particular cue correlations, rather than through uniform heuristic simplification [3]. Consequently, price in credence-based professional services functions not as a unidimensional economic signal, but as a polysemic cue that admits multiple, coexisting interpretations depending on consumers' dominant

cognitive anchors.

5.2 Three Cognitively Defined Consumer Segments

Consistent with RQ2, the cluster analysis demonstrates that heterogeneity in anchor reliance crystallizes into three empirically replicable market segments. The identified solution—Normative Anchors, Value Identifiers, and Cognitively Ambivalent consumers—exhibits robust internal cohesion and separation (average silhouette = 0.505), indicating a stable and interpretable segmentation structure. Importantly, this structure moves beyond traditional segmentation approaches by using latent cognitive configurations, rather than observable demographic or behavioral characteristics, as the basis for classification.

Each segment's profile aligns closely with its underlying anchor configuration: Normative Anchors display high ENRA and low IVIA scores, Value Identifiers exhibit the inverse pattern, and Cognitively Ambivalent consumers score low on both dimensions. This granular, cognition-based segmentation operationalizes the theoretical premise that systematic differences in interpretive heuristics manifest as identifiable consumer typologies in the marketplace, offering a more psychologically nuanced map of consumer heterogeneity than surface-level segmentation schemes.

5.3 Consequential Differences Between Segments

Addressing RQ3, the results indicate that these cognitively defined segments differ systematically across key attitudinal and perceptual outcomes, thereby establishing their consequential validity. First, significant differences in price-quality beliefs ($p < .01$) suggest that cognitive anchors shape foundational inferences about what price signals in credence-based services. Consumers characterized as Normative Anchors—who rely heavily on external benchmarks—express greater skepticism regarding a direct price-quality association, potentially interpreting higher prices as signals of institutional conformity rather than as assurances of service quality.

Second, the segments differ in the salience of specific perceived barriers. Value Identifiers report significantly higher stigma-related concerns ($p < .001$), consistent with the personal and identity-relevant nature of their price interpretation process. Additionally, Normative Anchors exhibit lower price sensitivity than the other two segments ($p < .05$), consistent with their reliance on institutional benchmarks rather than personal budget constraints

when evaluating service prices. In contrast, the absence of significant differences in distrust and perceived information opacity across segments suggests that these concerns function as pervasive, market-level constraints, rather than as outcomes of anchor-specific cognitive orientations. In contrast, the absence of significant differences in distrust and perceived information opacity across segments suggests that these concerns function as pervasive, market-level constraints, rather than as outcomes of anchor-specific cognitive orientations.

The absence of segment differences in short-term choice intention delineates a crucial boundary condition of our framework. This attitude–intention gap is particularly pronounced in credence goods markets, where the translation from belief to action requires bridging a significant trust gap that price signals alone cannot resolve [10]. Cognitive anchors (ENRA/IVIA) perform the initial screening and meaning-making of price information, which then serves as input for a subsequent, trust-based decision stage that ultimately gates behavioral commitment. In this sequential model, the construction of price meaning via cognitive anchors functions as a pre-decision filter, whereas trust accumulation through non-price cues—such as personal referrals, provider credentials, or trial interactions [6]—determines the ultimate behavioral outcome.

This pattern further validates the IVIA construct: for Value Identifiers, the appraisal is inherently identity-relevant. Stigma, understood as an identity threat, naturally becomes a more salient filter in their meaning-driven process, in contrast to the norm-focused evaluation of Normative Anchors.

This delineation between heuristic appraisal and trust-based action clarifies the scope of the dual-anchor framework and suggests a productive avenue for multi-stage models of credence service adoption.

6 Contributions and Implications

6.1 Theoretical Contributions

This study makes three interrelated contributions to the literature on pricing and consumer behavior in credence-based service markets.

First, it operationalizes the dual-anchor framework—External Normative Reference Anchor (ENRA) and Internal Value Identification Anchor (IVIA)—to elucidate distinct cognitive

mechanisms through which consumers interpret price. ENRA primarily guides heuristic evaluations based on external norms, while IVIA enables meaning-driven assessments aligned with personal values, anticipated emotional benefits, and relational fit. This mechanism-based distinction advances traditional “external vs. internal cue” dichotomies, providing a richer understanding of the cognitive microstructure underlying price interpretation.

Second, it specifies the boundary conditions and highlights the framework’s transferability. ENRA and IVIA operate in voluntary, non-crisis service evaluation scenarios where consumers can cognitively engage with price. While this study focuses on psychological counseling, the framework is applicable to other credence-based professional services—such as legal, financial, and medical consulting—characterized by information asymmetry and reliance on trust. This generalizability underscores the framework’s theoretical portability.

Third, the study links micro-level cognitive processing to macro-level market outcomes. By clarifying how dual anchors shape belief formation, barrier perception, and the attitude–intention gap, the framework helps explain persistent price dispersion, communication failures, and trust gaps in credence-based markets. In doing so, it bridges the gap between cognitive mechanisms and observable market phenomena, enhancing both explanatory and practical relevance.

In sum, the dual-anchor framework offers a mechanism-rich, contextually grounded, and theoretically portable model that connects the cognitive interpretation of ambiguous price signals to broader market and managerial challenges, advancing both behavioral pricing theory and the study of professional service markets.

6.2 Managerial Implications

The dual-anchor framework offers managers in credence-based professional services a diagnostic foundation for tailoring pricing communications more effectively.

For Normative Anchors, pricing messages should emphasize external legitimacy and institutional validation. Highlighting professional certifications, regulatory compliance, institutional affiliations, and transparent benchmarking against market standards aligns with this segment’s reliance on normative reference cues and can reduce perceived risk.

For Value Identifiers, communications should foreground personal relevance and intrinsic value. Linking the service to self-improvement, relational well-being, or long-term personal outcomes—and framing price as an investment in a meaningful transformation rather than as a standardized fee—may be particularly effective for this segment.

For Cognitively Ambivalent consumers, uncertainty reduction is paramount. Clear service explanations, low-commitment trial options, and credible forms of social proof can help compensate for the absence of a dominant interpretive anchor and facilitate initial trust formation.

At the same time, certain barriers—most notably distrust and information opacity—appear to operate across segments. Addressing these issues requires market-level interventions, such as standardized service descriptions and third-party verification mechanisms. Managers should also exercise caution when deploying complex pricing tactics, which may generate confusion and perceived unfairness regardless of consumers’ underlying cognitive orientation.

6.3 Policy Implications

The findings carry implications for the governance of credence-based professional service markets. Persistent information asymmetry and price opacity in markets such as psychological counseling create conditions under which consumers cannot effectively evaluate service quality, undermining both market efficiency and consumer welfare. The identification of cognitively distinct consumer segments suggests that regulatory interventions should move beyond uniform price disclosure requirements. Policymakers may consider segment-targeted transparency mechanisms: standardized credential display and benchmark pricing publication for normatively anchored consumers, and outcome-based quality reporting for value-oriented consumers. These differentiated approaches align with the journal’s broader focus on how institutional arrangements and governance mechanisms interact with social behavior to shape policy effectiveness and collective well-being.

6.4 Limitations and Future Research

Several limitations of this study point to promising directions for future research. First, the cross-sectional design and focus on China’s psychological counseling market suggest that the dual-anchor structure and

segmentation solution should be validated across other credence-based services and cultural contexts.

Second, although survey data are well suited to capturing cognitive and attitudinal constructs, experimental designs that manipulate the salience of normative versus value-based cues would allow for stronger causal inference. Longitudinal research could further examine whether anchor reliance evolves with service experience, changing life circumstances, or repeated market exposure.

Third, while the study identifies a gap between cognitive interpretation and behavioral intention, it does not empirically test the contextual and relational mechanisms that may bridge this gap. Future work could investigate how trust development, relational continuity, and socially validated information environments facilitate the translation of anchor-based interpretations into behavioral action.

Finally, although the ENRA and IVIA measures perform well in the present context, further refinement and validation across service domains would strengthen their robustness and discriminant validity. Exploring antecedents of anchor reliance—such as personality traits, prior service experience, or cultural orientation—would also deepen understanding of how these interpretive frameworks develop.

Data Availability Statement

Data will be made available on request.

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Conflicts of Interest

The authors declare no conflicts of interest.

AI Use Statement

The authors declare that DeepSeek-R1 was used for language proofreading of the entire manuscript. The authors have carefully reviewed, revised, and verified the AI-assisted output and take full responsibility for the content of the manuscript.

Ethical Approval and Consent to Participate

Formal ethical approval was not required for this study under the institutional review policies of Orkhon University applicable at the time of data collection, as

the research involved non-interventional social and behavioral survey research with adult participants, did not involve clinical intervention or sensitive personal identifiable information, and posed no foreseeable risk of harm to participants. Participation in both the online survey and the semi-structured interviews conducted during the instrument-development stage was voluntary. All participants were informed of the purpose of the study, the voluntary nature of participation, their right to discontinue participation at any time, and the confidential treatment of their responses. Informed consent was obtained from all participants prior to participation. No personally identifiable information is reported in this article.

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