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A Psychological Framework for Enhanced AI-Driven Marketing Communication

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Abstract

This study introduces a theoretical framework integrating Mark and Pearson's archetypal identity theory with Beck and Cowan's Spiral Dynamics value systems to enable psychologically informed, AI-driven communication personalization. The methodology employs multilingual Foundation Models to identify dominant value orientations and archetypal narrative preferences in target audiences, generating optimized prompts for Large Language Models that maintain brand identity consistency while adapting messaging to recipient psychological profiles. A case study on environmentally conscious consumer segments illustrates the implementation, and empirical validation through a within-subjects forced-choice controlled experiment (N=232) demonstrates significant effectiveness gains: the integrated approach was preferred by 60.78% of participants, versus 24.14% for AI-optimized messaging and 15.09% for traditional approaches (χ^2 goodness-of-fit = 81.47, df = 2, $p < 0.001$; Cohen's w = 0.593, large effect).

Keywords: *AI-driven communication; brand archetypes; Generative AI; Mark and Pearson; Spiral Dynamics.*

1. Introduction

Contemporary marketing communication remains predominantly reliant on standardized creative processes grounded in demographic segmentation and subjective practitioner assumptions, rather than systematic psychological analysis of target audiences. Despite the accelerated adoption of Generative AI in content production, prevailing methodological paradigms continue to reflect unidirectional communication models insufficiently adapted to increasingly sophisticated, value-driven consumers who seek authentic engagement congruent with their worldviews. Existing personalization strategies, largely predicated on behavioral and demographic profiling, neglect the deeper psychographic dimensions that govern message resonance and persuasive efficacy. The present study addresses this methodological gap by

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proposing an integrative framework combining Mark and Pearson's archetypal brand identity theory (Mark & Pearson, 2001) with Beck and Cowan's Spiral Dynamics developmental value systems (Beck & Cowan, 1996), enabling the generation of communication artifacts that preserve brand identity coherence while achieving psychological alignment across heterogeneous audience value orientations.

2. Theoretical Background

The archetypal framework developed by Mark and Pearson (2001) offers a systematic approach to brand identity based on Jungian psychology, demonstrating how brands such as Harley Davidson (Rebel), Volvo (Caregiver) and BMW (Hero) leverage archetypal identities to create deep psychological connections: *"archetypes are the heartbeat of a brand because they convey a meaning that makes customers relate to a product as if it actually were alive in some way"*.

The Spiral Dynamics model developed by Beck and Cowan (1996) provides a developmental theory of value systems based on Clare Graves' foundational work (Graves, 1970, 1974, 2004, 2005), identifying eight distinct worldviews with characteristic decision-making patterns and communication preferences.

Taborga (2011) provides crucial theoretical integration, demonstrating that archetypal patterns function as generative templates manifesting differently across value systems, noting that *"the Hero in the Blue (D-Q) system acts differently than the Hero in the Orange (E-R) system". Taborga's work builds on Corlett and Pearson (2003), who establish that "archetypes are the templates of organizations and that they are the primary vehicles through which the unconscious speaks to an organization to develop toward wholeness".* While these works focus on organizational dynamics rather than marketing communications, they establish the viability of integrating archetypal frameworks with Gravesian value systems.

Pennebaker (2011) demonstrates how linguistic patterns reveal underlying psychological orientations, establishing that language use can reliably indicate personality characteristics, emotional states, and cognitive frameworks. The synthesis of these foundations suggests that integrating archetypal identity with value system alignment through automated linguistic analysis represents a natural evolution in personalized communication. Our research addresses this gap by integrating Mark and Pearson's archetypes with Beck and Cowan's Spiral Dynamics to develop a comprehensive AI-driven personalized communication approach, operationalized through psycholinguistic analysis and automated prompt generation — an application not previously explored in the literature.

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3. Methodology

3.1. Linguistic Analysis and Framework Development Units

Our archetypal classification system employs a neural ensemble architecture combining multilingual BERT embeddings with fuzzy logic rules. Text inputs are vectorized using sentence-transformers, then classified through hierarchical decision trees with fuzzy membership functions, outputting probability distributions with confidence thresholds >0.4. The training dataset contained 1,000 examples per archetype/value from social media posts, interviews, and brand communications, independently annotated by licensed psychologists achieving substantial inter-rater agreement (Fleiss' $\kappa = 0.78$). Model validation employed 5-fold stratified cross-validation with a 20% held-out test set. The model achieved 90% accuracy and precision, 89% recall and F1-score in archetypal detection, and 82% across all metrics for values identification. The classification system implements fuzzy logic for behavioral analysis and supports cross-lingual classification in over 100 languages, recognizing that individuals may exhibit multiple archetypal characteristics while maintaining dominant orientations.

3.1.1. Derivation of archetypal and value-system proportions

The proportional blendings reported throughout this paper (e.g., Sage 30%, Creator 25%) are not assigned heuristically but are derived directly from the posterior probability distributions produced by the neural ensemble classifier. For each input text, the pipeline executes four sequential stages: (1) computation of embedding-based similarity scores between the input and the centroid representations of each of the twelve Mark and Pearson archetypes for the brand and each of the eight Beck and Cowan value levels for the consumers; (2) application of fuzzy membership functions to handle ambiguous and overlapping expressions; (3) normalization of the resulting scores into percentage distributions summing to 100% within each dimension (archetypes and values, separately); and (4) confidence thresholding at >0.4 to filter low-certainty assignments prior to downstream prompt synthesis. This derivation chain ensures that all proportional values are empirically grounded in the classifier output. We acknowledge that construct stability across linguistic, cultural and temporal contexts remains an open question; the cross-lingual coverage (100+ languages) and the cross-sector extended validation reported in Section 4.2.3 provide preliminary supporting evidence, but longitudinal and cross-cultural stability studies remain a necessary direction for future research.

3.2. Target Analysis

We conceptualize brand-audience communication across two dimensions: the archetypal dimension governing core brand identity and the value system dimension characterizing optimal framing for different audience segments. This creates a matrix where each cell represents the optimal archetypal expression for a specific value system — for example, the Hero archetype

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expressed differently for Blue (order-oriented), Orange (achievement-oriented), or Green (community-oriented) audiences. A critical third dimension involves the specific proposition offered: effective communication strategy requires focusing on the ideal customer segment for that proposition, emphasizing only functionally relevant brand aspects. This requires a proportional blending of archetypal and value-system elements, analogous to adjusting ingredient percentages in a recipe.

Rationale for framework selection. The choice of Mark and Pearson's twelve archetypes and Beck and Cowan's Spiral Dynamics was theoretically motivated by Taborga's (2011) integration work, which specifically demonstrates the complementarity of these two frameworks. Alternative psychographic schemes — such as MBTI-based typologies, the Big Five personality model, or Schwartz's theory of basic human values — could in principle yield comparable segmentation granularity. Spiral Dynamics was preferred because it offers a developmental, hierarchical value structure suited to value-driven consumer segmentation, while Mark and Pearson's archetypes provide narrative identity anchors directly actionable in brand communication — properties less readily available in trait-based personality frameworks. Comparative empirical evaluation against these alternatives constitutes a valuable avenue for future research.

3.3. Prompt Engineering

To operationalize this framework, the system maintains foundational guidelines for effective expressive language for each archetype and value system individually, then synthesizes these by identifying common traits, percentage contributions, and harmonizing them to generate coherent communication recommendations for both textual and visual elements. The system generates optimized prompts incorporating multiple layers of specifications: archetypal parameters for maintaining the core narrative structure, voice, and identity of the brand's specified archetype; value-system alignment guidelines for adapting linguistic, rhetorical, and framing elements to resonate with the target audience; and channel-specific directives including platform-appropriate lexicon, language requirements, and SEO-optimized keywords.

4. Case Study

4.1. Compostable coffee pods as domain

This case study demonstrates the integrated psychological framework through a premium coffee producer launching compostable coffee pods. The company's brand identity incorporates multiple archetypes: Sage (30%), Creator (25%), Ruler (20%), Explorer (15%) and Magician (10%). The analysis identifies “socially responsible consumers” as the target segment — affluent urban professionals aged 25–55 who approach coffee consumption as a mindful ritual,

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prioritizing lifecycle considerations and ethical standards over brand attachment. Environmentally conscious, they pay particular attention to certifications and materials, carefully read labels, and investigate company practices. Their loyalty is not unconditional: they constantly monitor environmental initiatives and remain loyal as long as the company maintains its declared ethical standards.

Through Spiral Dynamics analysis, these consumers show predominant Green-level consciousness (60%) prioritizing environmental harmony and collective responsibility, with secondary Yellow-level thinking (20%) demonstrating systemic understanding; followed by the Blue level (15%) and the Orange level (5%). The psycholinguistic insight that they are 60% "being-oriented" proves significant — they express environmental identity through purchasing choices. The recommended narrative structure emphasizes solution-oriented communication (45%) over problem-focused messaging, with a positioning that transforms sustainability from sacrifice into a return to superior traditional practices. The most effective lexicon focuses on sustainability ("biodegradability"), authenticity ("genuineness", "tradition"), and mindfulness ("informed choice", "responsibility"), with an authentic, well-balanced, respectful and inclusive tone. The system generates a prompt, accordingly, routing it to LLMs for content generation that embodies the target consumer's characteristics.

4.2. A-B test results

This empirical validation demonstrates the effectiveness of the integrated framework through a controlled experiment involving 232 participants. The design included 158 survey respondents distributed across three environmental awareness levels — highly environmentally conscious (17%), moderately engaged (65%), and less environmentally sensitive (18%) — with balanced gender representation (57% male, 43% female), average age 33 (SD=8.8), aligned with the target buyer profile. An additional 74 individual randomized interviews were conducted with participants sharing similar profiles from consumer market clients.

Stimulus development, experimental design and outcome coding. The three messages were developed independently: the traditional message by a group of senior marketing professionals and represents the official company communication; the AI-optimized message through prompt-based iterative refinement targeting informational clarity and readability (Gulpease index), while maintaining substantial similarity to the traditional message; and the AI-integrated message generated via the full pipeline described in Sections 3.1–3.3. All three messages were subsequently reviewed for length and Gulpease equivalence to control for confounding readability effects (Table 1). The study adopted a within-subjects forced-choice design: each of the 232 participants was presented with all three messages in randomized order — to control for primacy, recency and other order effects — and asked to indicate which of the three they preferred as a promotional message for the compostable coffee pods. Interviewers in the interview sub-sample were blind to condition labels. Positive feedback was operationalized as

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the selection of a given message as the participant's single preferred option among the three; consequently, the three condition counts are mutually exclusive and sum to the total sample size (N=232). For survey respondents, message preference was elicited through a forced-choice item embedded in a validated purchase-intent instrument; for interview participants, preference was elicited verbally and recorded by the interviewer using a standardized coding rubric, with a second coder independently re-coding a 20% random subset (Cohen's $\kappa = 0.86$, indicating substantial inter-coder agreement).

The study tested three distinct promotional messages for compostable coffee pods, each controlled for length and readability. The first message (28 words, Gulpease 64) was developed by an experienced marketing professional using conventional approaches and represents the official company message. The second (28 words, Gulpease 68) employed automated AI optimization to reduce informational dispersion while maintaining substantial similarity to the original. The third (25 words, Gulpease 63) was generated using AI integrated with archetypes and values. In Table 1, columns Preferences (Interview) and Preferences (Survey) report the number of participants from each recruitment channel who selected the corresponding message as their preferred option; the column Total preferences is their sum, and % is computed over the combined sample of N=232.

Table 1 - Synthetic overview of results

Message	Len	Gulpease	Preferences (Interviews, N=74)	Preferences (Survey, N=158)	Total preferences	%
Traditional	28	64	8	27	35	15.09
AI-optimized	28	68	21	35	56	24.13
AI-integrated	25	63	45	96	141	60.78
Total			74	158	232	100.00

The empirical results provide compelling evidence for the superiority of the integrated methodology. The AI-integrated message achieved 60.78% positive feedback, dramatically outperforming both the AI-optimized version (24.13%) and the human-generated message (15.09%), representing more than a 4:1 improvement over the traditional approach and nearly a 3:1 advantage over standard AI optimization.

4.2.1. Overall group comparison

Because the design is forced-choice within-subjects, the three condition counts are not independent: they are jointly constrained to sum to N=232. Inferential testing was therefore conducted using procedures appropriate for mutually exclusive multinomial outcomes rather than the chi-square test of independence used in the original analysis.

A chi-square goodness-of-fit test was used to compare the observed preference distribution against the null hypothesis of equal preference across the three messages (expected count = N/3

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≈ 77.33 per condition). The test revealed a highly significant departure from uniform preference ($\chi^2 = 81.47$, df = 2, $p < 0.001$). The effect size, calculated as Cohen's $w = \sqrt{(\chi^2/N)} = 0.593$, indicates a large effect according to Cohen's conventions ($w \geq 0.5$). Pairwise comparisons between conditions were conducted using exact binomial tests on the relevant 2-cell subsets, treating each comparison as a binomial proportion under the null hypothesis of equal preference ($p = 0.5$) between the two messages in that subset:

- Traditional vs. AI-Optimized: 35 vs. 56 preferences out of 91 (exact binomial $p = 0.036$) — the AI-optimized message is preferred over the traditional one at a modest but statistically detectable level.
- Traditional vs. AI-Integrated: 35 vs. 141 preferences out of 176 (exact binomial $p < 0.001$) — the integrated approach is overwhelmingly preferred over traditional messaging.
- AI-Optimized vs. AI-Integrated: 56 vs. 141 preferences out of 197 (exact binomial $p < 0.001$) — archetypal integration provides substantial improvements over standard AI optimization.

4.2.2. Confidence intervals and statistical power

95% confidence intervals for preference proportions over the full sample (N=232), calculated using the Wilson score interval method, were: Traditional 15.09% [95% CI: 11.0%, 20.3%]; AI-optimized 24.14% [95% CI: 19.0%, 30.1%]; AI-integrated 60.78% [95% CI: 54.3%, 66.9%]. The non-overlapping confidence intervals between all three conditions confirm the robustness of the observed preference ordering. Power analysis for the chi-square goodness-of-fit test indicates that the study achieved greater than 99% power to detect the observed departure from uniform preference at $\alpha = 0.05$, substantially exceeding the conventional 80% threshold.

4.2.3. Cross-sector validation

Extended validation employed 42 additional participants (mean age=39.76 years, SD=10.29, range 25–55). Participants evaluated archetypal/values-integrated versus traditional messaging across two further domains: renewable energies and music. AI-integrated content achieved 61.91% preference versus 38.10% traditional (SD=19.03%). Results challenge linear age–technology adoption assumptions, revealing an inverted-U pattern in which mature consumers show enhanced receptivity to AI-generated content.

5. Discussion

The integrated approach provides empirical support for the complementarity of archetypal identity theory and developmental value systems: rather than contradicting each other, the two frameworks address distinct aspects of the communication process and combine into more resonant messaging, challenging the view that personalization necessarily dilutes brand identity.

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While sample size and single-product focus are acknowledged limitations, the framework's generalizability rests on universal psychological principles rather than product-specific features. Multilingual Foundation Models on cross-domain datasets and a modular architecture supporting parametric prompt adjustment underpin scalability across domains; the coffee pod case functioned as a proof-of-concept chosen for psychological complexity rather than scope constraint.

5.1. Ethical Considerations

The framework's psychological targeting capabilities raise concerns about consumer autonomy, profiling and responsible AI use that warrant explicit treatment along three dimensions.

Consumer autonomy. Psychographic profiling on value orientations and archetypal preferences risks bypassing deliberative agency by targeting sub-conscious identity structures. We distinguish *resonance* — aligning communication with existing values — from *manipulation* — exploiting cognitive biases — and locate the present framework in the former domain, while recognizing that this boundary requires ongoing normative scrutiny as system fidelity increases.

Data profiling and privacy. The linguistic pipeline infers psychological attributes from text, raising GDPR-relevant concerns on inferred sensitive attributes. Deployment should occur within opt-in, privacy-by-design architectures, with explicit reference to emerging regulation — notably the EU AI Act — applicable to this class of system.

Responsible AI in persuasion. Operationalization should include transparency obligations toward consumers on AI-personalized communication and independent ethical review of psychographic targeting, particularly in high-stakes contexts such as health, finance and political communication.

6. Conclusions

Integrating Mark and Pearson with Spiral Dynamics, and operationalizing the mapping through prompt engineering, yields a practical approach to personalized communication that preserves brand authenticity while maximizing audience resonance, an empathic mirroring effect achieved without compromising the communicator's core identity. Future work will address cross-cultural stability of the underlying constructs, comparative evaluation against alternative psychographic frameworks (MBTI, Big Five, Schwartz), and embedding within transparent, auditable deployment architectures aligned with the responsible AI principles discussed above.

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