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From Heritage to Innovation: Uncovering the Values Affected in Transforming Cultural Artifacts into New Products

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Abstract

Innovation in contemporary markets increasingly depends on reinterpreting meaning rather than introducing new technologies. While Design Thinking emphasizes incremental improvements through user-centered problem-solving, Design-Driven Innovation (DDI) seeks radical changes by transforming the symbolic and cultural meanings associated with products. Despite its growing relevance, DDI remains empirically underexplored. This study examines how meaning reinterpretation influences value perception in product innovation, addressing the question: how does DDI affect functional, social, and symbolic dimensions of value when applied to cultural artifacts? To investigate this, four Persian cultural artifacts were reinterpreted by design students to generate new product concepts. Traditional artifacts and their redesigned counterparts were evaluated using a value-based framework integrating the Form–Function–Meaning model and the Richins' Asset Value Rating Scale. The findings show that value transformation is selective rather than uniform. Statistically significant differences were identified in three dimensions—utilitarian value ($p = .007$), self-expression ($p = .014$), and status ($p = .002$)—with lower scores observed for redesigned artifacts. Other value dimensions remained stable. These results reflect designer-perceived value rather than validated user responses. The findings provide preliminary empirical support for the Innovation Paradox, suggesting that meaning-driven innovation, when developed without external validation, may weaken specific value dimensions, particularly those related to functional use and socially recognized identity. The study contributes by offering empirical evidence of selective value transformation and proposing a three-stage framework—meaning exploration, interpretive validation, and functional calibration—to support more balanced design-driven innovation.

Keywords

Design-Driven Innovation; Innovation Paradox; Persian Cultural Artifacts; Value Creation; Meaning-Making; Design Management.

Introduction

Innovation today is increasingly shaped not only by technological advancement, but by the ability to create new meanings around products and experiences. In this context, Design-Driven Innovation (DDI) has emerged as an approach that focuses on transforming the symbolic and cultural significance of products rather than merely improving their functionality (Verganti, 2009; 2017). Unlike conventional user-centered approaches, DDI seeks to redefine how people interpret and emotionally relate to artifacts, often by introducing new cultural narratives and meanings.

This shift has important implications for innovation management. While user-centered methodologies such as Design Thinking typically emphasize problem-solving and incremental improvement, DDI operates through reinterpretation and meaning-making. Its goal is not simply to respond to existing user needs, but to propose new visions that may reshape how products are understood and valued (Norman & Verganti, 2014). However, this approach also introduces a critical tension. When meaning transformation is pursued without sufficient attention to functional performance or social interpretation, innovation may unintentionally weaken aspects of product value that are important to users. This study conceptualizes this tension as the Innovation Paradox.

Cultural artifacts provide a particularly rich context for examining this issue. Traditional artifacts are not merely historical objects; they embody social memory, symbolic meanings, and culturally embedded forms of value (Appadurai, 1988). When such artifacts are reinterpreted through contemporary design processes, their meanings are not simply preserved or transferred. Rather, they are selectively reconstructed through the perspectives and assumptions of designers. As a result, the transformation process may simultaneously generate new meanings while also destabilizing existing forms of value.

Although Design-Driven Innovation has received increasing theoretical attention, empirical research examining how meaning transformation affects value perception remains limited. Existing studies largely emphasize strategic or conceptual discussions, while relatively few investigate how different dimensions of value change during the reinterpretation of culturally embedded artifacts. This gap becomes especially important in contexts where innovation draws directly from heritage and cultural identity.

To address this issue, the present study investigates how values are transformed when Persian cultural artifacts are redesigned into contemporary product concepts through a DDI-oriented process. The research combines the Form–Function–Meaning framework with Richins' multidimensional value model to examine how functional, symbolic, and socially embedded values shift during reinterpretation. Rather than claiming to measure validated user responses, the study focuses on designer-perceived value transformation within a meaning-driven design process.

The study addresses the following research questions:

RQ1: How are cultural artifacts reinterpreted to generate innovation through a design-driven innovation approach?

RQ2: Which dimensions of perceived value are affected during the transformation of cultural artifacts into new product concepts?

Theoretical Framework

Form, Function, and Meaning

Design artifacts are more than functional objects; they also embody cultural values, social practices, and symbolic meanings. Across different historical periods, objects have reflected the relationship between material needs and cultural interpretation. In traditional craft-based societies, artifacts were typically produced by a single maker who simultaneously shaped their form, function, and meaning. As a result, objects carried not only practical utility but also social and cultural significance. With industrialization,

however, design increasingly prioritized efficiency and functionality, reducing the symbolic and ritual dimensions historically embedded in material culture.

By the late twentieth century, post-industrial and postmodern perspectives challenged purely functional interpretations of design. Scholars increasingly emphasized that objects communicate meanings beyond utility and that users actively interpret artifacts through cultural and social contexts (Klimenko & Berdnik, 2018). Within this perspective, design became not only a process of problem-solving but also a process of meaning-making. This relationship is commonly conceptualized through the triadic framework of form, function, and meaning. Function refers to the practical role of an artifact, while form concerns its material and visual characteristics. Meaning, however, emerges through interpretation and interaction. As Krippendorff (1989) argues, design is fundamentally concerned with "making sense of things." Meaning is therefore not embedded solely within objects themselves, but develops through the interaction between artifacts, users, and cultural context.

Form plays a particularly important role within this relationship because it mediates between function and interpretation. According to Westerlund (2002), form helps users recognize not only how an artifact should be used, but also what kind of experience or expectation is associated with it. Consequently, form operates simultaneously as an aesthetic, communicative, and cognitive layer within design.

For cultural artifacts, this relationship becomes especially significant. Traditional objects often embody environmental adaptation, social values, and collective memory within their formal and functional structures. When such artifacts are reinterpreted through contemporary design processes, their meanings may shift substantially, even when some visual or functional references remain intact. As illustrated in Figure 1, the interaction between form, function, and meaning provides the conceptual basis for understanding how cultural artifacts communicate both practical and symbolic value.

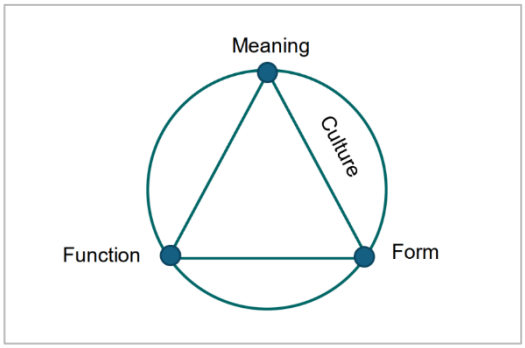

Figure 1: *Diagram of three aspects: form, function, and meaning in culture, reproduced from* (Ashadi, 2020).

Design-Driven Innovation and Meaning Transformation

The role of design in innovation has evolved considerably over recent decades. Earlier approaches often treated design primarily as a tool for styling or product differentiation. More recent perspectives, however, position design as a strategic driver of innovation capable of shaping how products are culturally interpreted and socially valued (De Goey, Hilletofth, & Eriksson, 2019).

Within this shift, Design-Driven Innovation (DDI) emerged as a framework that emphasizes innovation through changes in meaning rather than solely through technological advancement or functional improvement (Verganti, 2008; 2009). Unlike conventional user-centered approaches, which focus on identifying and responding to existing user needs, DDI seeks to propose new meanings that may redefine how people relate to products and experiences.

Verganti (2009) describes this process as innovation driven by symbolic and cultural reinterpretation. In this model, products gain competitive value not only because they perform better, but because they communicate new visions, identities, or cultural narratives. Examples such as Nintendo Wii or Alessi's

domestic products demonstrate how reinterpretation can reshape product categories by transforming the social and emotional meanings associated with use (Verganti, 2009; Holt & Cameron, 2010).

This perspective differs significantly from Design Thinking and Human-Centered Design (HCD). While Design Thinking generally emphasizes empathy, problem-solving, and iterative refinement, DDI is more concerned with proposing alternative cultural interpretations and envisioning new futures (Auernhammer & Roth, 2021). Norman and Verganti (2014) argue that human-centered approaches are particularly effective for incremental innovation, yet often remain constrained by existing user expectations. Radical innovation, by contrast, frequently emerges either from technological breakthroughs or from reinterpretations of meaning.

Norman and Verganti's framework positions innovation along two dimensions: technology and meaning. Incremental innovation occurs through limited changes in these dimensions, while radical innovation emerges when one or both undergo substantial transformation. Figure 2 illustrates this distinction and clarifies why DDI operates differently from conventional user-centered innovation.

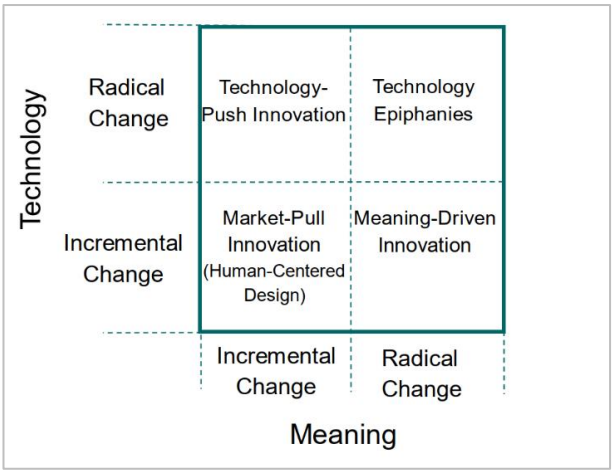

Figure 2: *Innovation spans two dimensions: technology and meaning. Human-Centered Design (HCD) supports incremental innovation with minor shifts in both. Radical innovation occurs when either dimension shifts significantly, e.g., color TV (technology) or watches as fashion (meaning). The most transformative, but rare and risky, innovation arises when both change simultaneously, as with the Wii's redefinition of gaming through new tech and purpose. Reproduced from* (Norman & Verganti, 2014).

A central characteristic of DDI is its "inside-out" orientation. Rather than asking users what they currently want, designers and firms attempt to envision meanings that users may later come to appreciate (Verganti, 2009). This process often involves collaboration with interpreters such as designers, artists, cultural experts, and researchers who contribute alternative perspectives on emerging social and cultural trends.

However, this orientation also introduces important limitations. Because meaning-driven innovation is less dependent on direct user validation, it carries a greater risk of misalignment with functional expectations or socially recognized meanings (Baha, Ghei, & Kranzbuhler, 2021). Krippendorff (1997) further argues that meanings are inherently unstable and subject to reinterpretation by users. Objects may therefore acquire meanings different from those originally intended by designers.

Recent research has consequently emphasized the need to balance DDI with forms of user-centered validation. Baha et al. (2021), for example, propose integrating Human-Centered Design into meaning-driven innovation processes in order to reduce the risk of value misalignment while preserving the exploratory nature of DDI.

This issue becomes particularly important when innovation draws upon cultural heritage. Cultural artifacts contain historically accumulated meanings that are socially embedded and context-dependent. Reinterpreting these meanings within contemporary design processes does not simply transfer cultural value from past to present; rather, it reconstructs and transforms it. Designers therefore function as cultural interpreters who selectively translate aspects of heritage into new product narratives.

Traditional Persian artifacts provide a particularly relevant context for examining this process. Elements such as the Korsi, Orsi, Howz, and Badgir historically integrated practical functionality with environmental adaptation, social interaction, and symbolic meaning (Arasteh, 1970; Petruccioli, 2007; Ruggles, 2008; Roaf, 1988). Their reinterpretation within contemporary design therefore offers an opportunity to investigate how meaning transformation influences different dimensions of perceived value.

Value, Culture, and Meaning

The concept of value has been discussed extensively across economics, sociology, marketing, and design research. Within innovation studies, value is increasingly understood as multidimensional, extending beyond economic exchange or functional utility to include emotional, symbolic, and socially embedded dimensions (Pedersen, Gwozdz, & Hvass, 2018; Boenink & Kudina, 2020).

In the context of cultural artifacts, value cannot be understood as an objective or fixed property of the object itself. Rather, value emerges through cultural interpretation and social interaction. Appadurai (1988) argues that objects acquire value through the meanings and relationships constructed around them within particular cultural contexts. Similarly, Douglas and Isherwood (1996) describe possessions as part of a broader communicative system through which individuals express social relationships and cultural identities.

Research on consumption and identity further emphasizes the symbolic role of possessions. Belk (1988) and McCracken (1986) argue that objects contribute to the construction and expression of the self. Possessions therefore derive significance not only from practical use, but also from their ability to communicate identity, memory, achievement, and belonging.

This perspective is especially relevant for cultural artifacts because such objects often embody collective memory and culturally shared meanings. Heritage-based products derive value not only from material qualities, but also from their symbolic connection to tradition, authenticity, and social identity (Bertola et al., 2016). Consequently, when cultural artifacts are transformed into contemporary products, the process involves not merely functional redesign, but also reinterpretation of socially embedded meaning.

To examine this process empirically, the present study adopts Richins' (1994) Asset Value Rating Scale as a multidimensional framework for understanding perceived value. Unlike models focused primarily on usability or technological acceptance, Richins' framework captures both utilitarian and symbolic dimensions of value, including self-expression, interpersonal ties, personal history, status, enjoyment, and spirituality.

Table 1: *Richins' Rating Scales, adapted from* (Giacomin, 2017).

Type of Value	***This possession is important to me because it...***
Utilitarian	*... allows me to be efficient in my daily life or work*
	... has a lot of practical usefulness
	... provides me freedom or independence
Enjoyment	*... provides enjoyment, entertainment or relaxation*
	... improves my mood
	... provides comfort or emotional security
Represents Interpersonal Ties	*... reminds me of my relationship to a particular person*
	... reminds me of my family or a group I belong to

	... represents my family heritage or history
Facilitates Interpersonal Ties	*... allows me to spend time or share activities with other people*
Self-Expression	*... allows me to express myself*
	... expresses what is unique about me, different from others
Represents Achievement	*... required a lot of effort to acquire or maintain*
	... reminds me of my skills, achievements, or goals
Symbolizes Personal History	*... reminds me of my childhood*
	... reminds me of particular events or places
	... is a record of my personal history
Financial Aspects	*... is valuable in terms of money*
Appearance Related	*... is beautiful or attractive in appearance*
	... improves my appearance or the way I look
Status	*... has social prestige value, gives me social status*
	... makes others think well of me
Spiritual	*... provides a spiritual link to divine or higher forces*

As summarized in Table 1, Richins' framework conceptualizes value as a multidimensional construct extending beyond practical utility to include emotional, symbolic, social, and identity-related dimensions. This multidimensional perspective makes the framework particularly appropriate for examining how cultural meanings are transformed through design-driven innovation.

This approach is particularly suitable for the present study because Design-Driven Innovation operates primarily through meaning transformation rather than purely functional optimization. The framework therefore allows the analysis to move beyond practical utility and investigate how reinterpretation affects emotional, symbolic, and socially embedded dimensions of value.

Importantly, this study does not attempt to measure the authentic historical value of Persian artifacts; instead, it examines how value is reconstructed within a contemporary design context. In this sense, value is treated as a perceived and interpretive construct shaped through designer interaction with cultural artifacts rather than as a stable characteristic inherent in the artifacts themselves. Building upon these theoretical foundations, the following section outlines the methodological approach used to investigate how meaning-driven reinterpretation influences perceived value in the transformation of Persian cultural artifacts into contemporary product concepts.

Methodology

This study adopts a quantitative design-based research approach to examine how perceived value changes when traditional cultural artifacts are reinterpreted through Design-Driven Innovation (DDI). Rather than evaluating market acceptance or validated user experience, the study focuses on how value is constructed and transformed within a designer-centered process of meaning reinterpretation. This distinction is important because DDI typically operates through designer-led exploration and cultural interpretation rather than direct user-driven optimization (Verganti, 2009).

1. *Research Design and Participants*

The empirical study involved 40 final-year undergraduate industrial design students recruited through convenience sampling from a university-level industrial design program. The use of final-year students was considered appropriate because participants had already completed advanced studio-based design courses and possessed sufficient familiarity with conceptual, symbolic, and meaning-oriented design processes.

Participants ranged in age from 21 to 24 years (Mean = 22). The sample consisted of 26 female students (65%) and 14 male students (35%). All participants were enrolled in the seventh academic semester of the undergraduate industrial design curriculum at the time of the study.

At this stage of education, students are capable of engaging simultaneously with functional, aesthetic, and symbolic dimensions of design, making them suitable participants for investigating how cultural meanings are interpreted and translated into contemporary product concepts.

To ensure variation in interpretation, participants were randomly divided into four groups of ten. Each group was assigned one traditional Persian artifact for analysis and reinterpretation: Korsi, Orsi (stained-glass window), Howz (pool), or Badgir (windcatcher) (Figure 3). These artifacts were selected because they combine practical functionality with strong cultural and symbolic significance within Persian material culture.

Figure 3: *Traditional Persian artifacts examined in the study: Korsi (Arasteh, 1970), Orsi stained-glass window* (Petruccioli, 2007)*, Howz courtyard pool* (Ruggles, 2008)*, and Badgir windcatcher* (Roaf, 1988).

The Korsi functioned historically as both a domestic heating system and a social gathering space within Iranian homes (Arasteh, 1970). Orsi windows integrated aesthetic expression with environmental and social functions, including light modulation and visual privacy (Petruccioli, 2007). The Howz served as a central element in Persian courtyards and gardens, combining climatic functionality with symbolic associations related to reflection and spirituality (Ruggles, 2008). The Badgir represented an advanced form of passive environmental adaptation through natural ventilation systems suited to arid climates (Roaf, 1988). Collectively, these artifacts embody the close relationship between environmental conditions, cultural practices, and symbolic meaning in traditional Persian design.

2. *Experimental Procedure*

The study was conducted over a three-month period and consisted of two sequential phases. In the first phase: Heritage Analysis, the participants investigated their assigned artifact by examining its formal, functional, and semantic characteristics. They were encouraged to consult historical references, visual documentation, and cultural sources in order to develop an informed understanding of the artifact's embedded meanings and contextual significance. Following this exploratory stage, participants completed a structured questionnaire documenting their initial value perceptions and interpretive associations.

In the second phase: Contemporary Reinterpretation, participants developed contemporary product concepts inspired by their assigned artifacts. The design process intentionally remained open-ended, without predefined functional constraints, in order to support exploratory meaning transformation consistent with the principles of DDI (Norman & Verganti, 2014). After completing the design phase, participants evaluated redesigned artifacts produced by other groups. No participant assessed their own design, thereby reducing direct self-evaluation bias.

3. *Measurement Instrument*

Data were collected through an online questionnaire consisting of six sections: Object Identification, Keyword Extraction, Domain Evaluation, Value Mapping, Value Typology, Demographic Information.

The questionnaire combined qualitative prompts with quantitative Likert-scale evaluations. Participants assessed artifacts across the dimensions of form, function, and meaning, as well as through eleven value categories adapted from Richins' (1994) Asset Value Rating Scale.

The demographic section recorded participants' gender, academic level, and age (Mean = 22; Female = 65%, Male = 35%). All participants were final-year undergraduate industrial design students.

Consistent with the theoretical framing of this study, the instrument was not intended to measure objective or historically authentic values embedded within artifacts; rather, it was designed to capture perceived value as interpreted by participants during the process of reinterpretation. This approach enabled a comparative analysis between traditional artifacts and their contemporary redesigns across multiple dimensions of perceived value.

4. *Operationalization of Value*

The study operationalized value through the integration of the Form–Function–Meaning framework and Richins' multidimensional value model. This combination enabled the analysis to extend beyond functional assessment and examine symbolic, emotional, and socially embedded dimensions of value transformation.

Although models such as the Technology Acceptance Model (TAM) and UTAUT are widely used for evaluating technology adoption (Davis, 1989; Venkatesh et al., 2003), these frameworks primarily emphasize usability, usefulness, and behavioral intention. Such models are less suitable for examining meaning-driven innovation, where value emerges not only from function but also from cultural interpretation and symbolic significance.

For this reason, Richins' framework was selected because it conceptualizes value as multidimensional, incorporating utilitarian, emotional, identity-related, and socially embedded dimensions. The framework includes categories such as self-expression, interpersonal ties, personal history, status, enjoyment, and spirituality, making it particularly appropriate for studying culturally inspired design reinterpretation.

5. *Analytical Approach*

Data analysis was conducted using SPSS software. Independent samples t-tests were employed to compare evaluations of traditional artifacts and redesigned products across the dimensions of Functionality, Aesthetics, Semantics, and the eleven value categories derived from Richins' framework.

The use of independent samples t-tests enabled systematic comparison between the two design conditions and facilitated the identification of statistically significant differences in perceived value dimensions. This analytical approach was considered appropriate for the exploratory nature of the study, which aimed to examine patterns of value transformation rather than establish predictive causal relationships.

Four hypotheses were formulated:

Hypothesis 1: The perceived functionality of redesigned artifacts differs significantly from that of traditional artifacts.
Hypothesis 2: The perceived aesthetics of redesigned artifacts differs significantly from that of traditional artifacts.
Hypothesis 3: The perceived semantics of redesigned artifacts differs significantly from that of traditional artifacts.
Hypothesis 4: Socially embedded value dimensions—including self-expression, interpersonal ties, personal history, and status—differ significantly between traditional and redesigned artifacts.

6. *Addressing Interpretive Bias*

An important methodological consideration in this study concerns the role of designers as interpreters of cultural meaning. Although participants did not evaluate their own designs, the findings reflect designer-perceived value transformation rather than validated user response. This positioning is consistent with the

logic of Design-Driven Innovation, where innovation frequently emerges through designer-led interpretation and meaning exploration (Verganti, 2009).

Accordingly, the study does not aim to predict market acceptance, but rather to investigate how value dimensions may shift during meaning-driven reinterpretation processes. From this perspective, designer-centered evaluation functions both as a methodological limitation and as an analytical lens for examining the internal dynamics of meaning production within DDI.

Results

1. *Form–Function–Meaning Analysis*

To examine how design-driven reinterpretation affects the fundamental dimensions of artifacts, an independent samples t-test was conducted comparing traditional artifacts and their contemporary redesigns across three domains: *Functionality*, *Aesthetics*, and *Semantics*.

As presented in Table 2, a statistically significant difference was observed in the *Functionality* dimension, t (79) = 3.59, p = .001. The mean score for traditional artifacts (M = 1.98, SD = .77) was higher than that of the redesigned artifacts (M = 1.41, SD = .63), indicating a measurable difference between the two conditions.

Table 2: *Independent Samples t-test results comparing perceptions of three dimensions: Functionality, Aesthetics, and Semantics between traditional and contemporary artifacts.*

	Traditional		Contemporary		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	M	SD	M	SD						Lower	Upper
Functionality	1.975	.767	1.415	.631	3.592	79	.001*	.560	.156	.250	.871
Aesthetics	1.675	.730	1.488	.553	1.303	79	.196	.187	.144	-.099	.473
Semantics	2.275	.933	2.146	1.152	.551	79	.583	.129	.233	-.336	.593

** Significant difference: $p < .05$*

In contrast, no statistically significant differences were found for *Aesthetics* (t (79) = 1.30, p = .196) or *Semantics* (t (79) = .55, p = .583). The mean values across these dimensions remained relatively comparable between traditional and redesigned artifacts.

These results suggest that, within the examined sample, changes between traditional and contemporary artifacts were not uniform across all dimensions, with only the functional aspect showing a statistically significant variation. Accordingly, Hypothesis 1 is supported, while Hypotheses 2 and 3 are not supported.

2. *Value Dimension Analysis*

To further investigate how value perceptions shift during the transformation process, an independent samples t-test was conducted across the eleven value dimensions derived from the Asset Value Rating Scale. The results are reported in Table 3.

Table 3: *Independent Samples t-test results comparing eleven value dimensions between traditional and contemporary artifacts.*

	Traditional		Contemporary		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	M	SD	M	SD						Lower	Upper
Utilitarian	2.65	1.167	1.98	1.012	2.781	79	.007*	.674	.243	.192	1.157
Enjoyment	1.98	.800	1.85	.823	.672	79	.503	.121	.180	-.238	.481
Represents Interpersonal Ties	3.00	1.261	2.61	1.282	1.381	79	.171	.390	.283	-.172	.953
Facilitates Interpersonal Ties	2.73	1.132	2.54	1.267	.705	79	.483	.188	.267	-.343	.720
Self-Expression	3.13	1.159	2.46	1.206	2.516	79	.014*	.662	.263	.138	1.185
Represents Achievement	3.05	1.061	2.83	.972	.977	79	.332	.221	.226	-.229	.671

Symbolizes Personal History	1.85	1.001	2.32	1.213	-1.887	79	.063	-.467	.247	-.960	.026
Financial Aspects	3.03	1.230	2.61	1.046	1.638	79	.105	.415	.253	-.089	.920
Status	3.25	1.127	2.51	.898	3.264	79	.002*	.738	.226	.288	1.188
Appearance Related	1.70	.883	1.41	.591	1.714	79	.090	.285	.167	-.046	.617
Spiritual	2.35	1.001	2.24	.943	.491	79	.625	.106	.216	-.324	.536

** Significant difference: $p < .05$*

Statistically significant differences were identified in three value dimensions: *Utilitarian* (t (79) = 2.78, p = .007), *Self-Expression* (t (79) = 2.52, p = .014), and *Status* (t (79) = 3.26, p = .002). In all three cases, the mean values for traditional artifacts were higher than those of the redesigned artifacts. Accordingly, Hypothesis 4 is partially supported, as significant differences were found for *Self-Expression* and *Status*, but not for *Represents Interpersonal Ties* or *Symbolizes Personal History*. It should be noted that Utilitarian value, although not included in Hypothesis 4, also showed a statistically significant difference.

For the remaining eight value dimensions—including *Enjoyment*, *Represents Interpersonal Ties*, *Symbolizes Personal History, Facilitates Interpersonal Ties*, *Represents Achievement*, *Financial Aspects*, *Appearance*, and *Spiritual*—no statistically significant differences were observed between the two groups (p > .05). However, Symbolizes Personal History showed a marginal trend toward higher values in contemporary designs (p = .063).

Overall, the findings indicate that differences in perceived value between traditional and redesigned artifacts were selective rather than universal, with statistically significant variation occurring in a subset of value dimensions.

3. *Classification Results*

The classification analysis demonstrated a moderate level of distinction between traditional and redesigned artifacts based on the examined value dimensions. The first model achieved an overall classification accuracy of 75.3%, which increased to 79.0% after refinement of the variable set (Tables 4 and 5). These findings further support the notion that value transformation occurs selectively across specific dimensions rather than uniformly across all categories.

Table 4: *Classification Table a (first iteration with 11 value dimensions)*

			Predicted		
			Group		
	Observed		1	2	Percentage Correct
Step 1	Group	1	29	11	72.5
		2	9	32	78.0
	Overall Percentage				75.3

a. The cut value is .500

Table 5: *Classification Table a (second iteration with 10 value dimensions)*

		Predicted		
		Group		
	Observed	1	2	Percentage Correct
Step 1	1	31	9	77.5
	2	8	33	80.5
	Overall Percentage			79.0

a. The cut value is .500

4. *Summary of Findings*

Across the analyses, statistically significant differences between traditional and redesigned artifacts were identified in specific dimensions rather than across all measured variables. Functionality showed a significant difference in the Form–Function–Meaning framework, while three value dimensions—

Utilitarian, Self-Expression, and Status—demonstrated significant variation in the value-based analysis. Other dimensions remained statistically unchanged.

Discussion

1. *Interpreting Value Transformation in Design-Driven Innovation*

The results of this study reveal a patterned and selective transformation in perceived value when traditional artifacts are reinterpreted through a design-driven innovation (DDI) approach. Rather than indicating a uniform shift across all dimensions, the findings demonstrate that value transformation is uneven and dimension-specific.

Most notably, statistically significant differences were observed in three value dimensions: *Utilitarian* value, *Self-Expression*, and *Status*. In all three cases, the mean values associated with traditional artifacts were higher than those of their redesigned counterparts. In contrast, the remaining value dimensions—including *Enjoyment*, *Interpersonal Ties*, *Achievement*, *Financial Aspects*, *Appearance*, and *Spiritual* value—did not show statistically significant variation.

This pattern suggests that meaning-driven reinterpretation does not universally enhance or diminish value; instead, it selectively affects specific dimensions. In particular, value dimensions that are closely tied to practical use and socially recognized identity appear to be more sensitive to transformation within DDI processes. This aligns with the view that product value is multidimensional and meaning-dependent (Richins, 1994; Ravasi et al., 2012), and that different value categories respond differently to shifts in meaning.

2. *The Innovation Paradox Revisited*

The findings provide empirical grounding for what is conceptualized in this study as the Innovation Paradox—the condition in which the pursuit of new meaning, when conducted without sufficient validation, may unintentionally weaken certain value dimensions.

The significant decline in utilitarian value suggests that when designers prioritize symbolic reinterpretation, functional coherence may receive less attention. This supports existing critiques of meaning-driven innovation that highlight its distance from user-centered validation processes (Norman & Verganti, 2014).

Similarly, the observed reductions in self-expression and status values indicate that socially embedded meanings are not easily transferable into new design contexts. These dimensions are not solely individual perceptions but are shaped through shared cultural recognition and collective interpretation (McCracken, 1986; Douglas & Isherwood, 1996). As a result, when designers reinterpret artifacts independently, the resulting products may fail to reproduce the social signals and identity functions embedded in traditional forms.

The absence of significant change across several value dimensions suggests that the Innovation Paradox is selective rather than universal. Meaning-driven innovation appears to destabilize particular dimensions—especially those associated with practical use and social recognition—while leaving others relatively stable. Since the findings reflect designer-perceived evaluations rather than validated user responses, the observed pattern should be interpreted as indicative rather than predictive of market behavior.

3. *Designer-Centered Interpretation as an Analytical Lens*

A key characteristic of this study is its reliance on designers as both creators and evaluators of meaning. While this condition introduces a potential source of bias, it also reflects a fundamental aspect of DDI, in which designers act as cultural interpreters who propose new meanings based on insight rather than direct user input (Verganti, 2009; Dell'Era et al., 2010).

From this perspective, the findings illustrate how value is constructed within a designer-centered interpretive system characteristic of DDI. The results suggest that meaning-driven innovation may privilege

symbolic reinterpretation while underrepresenting dimensions grounded in practical use or socially validated meaning. Accordingly, designer-centered interpretation should be understood not only as a methodological limitation but also as an analytical lens revealing the internal logic of meaning production within DDI processes.

4. *A Framework for Mitigating the Innovation Paradox*

To address the selective tensions identified in this study, a three-stage framework is proposed to support more balanced applications of DDI. This framework builds on prior research advocating the integration of meaning-driven and user-centered approaches (Norman & Verganti, 2014; Baha et al., 2021).

Stage 1: *Meaning Exploration (Designer-Led)*
Designers explore latent cultural meanings and generate alternative interpretations inspired by heritage artifacts. This stage reflects the exploratory and proposal-oriented nature of DDI (Verganti, 2009).

Stage 2: *Interpretive Validation (Stakeholder-Informed)*
External feedback from users, cultural experts, and domain specialists is introduced to evaluate the social and cultural resonance of proposed meanings (Ravasi et al., 2012).

Stage 3: *Functional Calibration (Use-Oriented Testing)*
Design concepts are assessed in terms of usability and functional coherence to reduce the risk of value misalignment and preserve practical performance (Norman, 2013).

Together, these stages provide a structured mechanism for balancing creative exploration with validation. Rather than limiting innovation, the framework enhances the robustness of meaning-driven design by reducing the risk of unintended value erosion.

5. *Implications for Design and Innovation Management*

The findings suggest that organizations adopting DDI should be cautious about relying exclusively on designer-driven interpretation. While such approaches can generate novel and culturally rich concepts, they may also lead to selective misalignment with functional and socially recognized value dimensions.

A balanced innovation strategy—combining meaning exploration with iterative validation—can help mitigate these risks. This approach enables organizations to retain the transformative potential of DDI while ensuring that innovations remain functionally viable and socially meaningful (De Goey et al., 2019; Norman & Verganti, 2014).

This study contributes to the literature in three key ways. First, it provides empirical evidence that value transformation in design-driven innovation is selective rather than uniform, with certain dimensions—particularly utilitarian and socially embedded values—being more sensitive to reinterpretation. Second, it reframes designer-centered evaluation not merely as a methodological limitation, but as an analytical lens that reveals how value is constructed within meaning-driven innovation processes. Third, it proposes a three-stage framework—comprising meaning exploration, interpretive validation, and functional calibration—that offers a structured approach to mitigating the risks associated with the Innovation Paradox.

6. *Limitations and Future Research*

A primary limitation of this study lies in its reliance on designer-centered evaluation. Although participants did not assess their own designs, the findings reflect designer-perceived value transformation rather than validated user responses.

In addition, the study employed a relatively small convenience sample consisting of final-year industrial design students. While this group was appropriate for examining interpretive processes within Design-Driven Innovation, future studies should include broader participant groups and external users in order to evaluate how value transformation is perceived beyond the design context.

Another limitation concerns the cultural specificity of the selected artifacts. The study focused on Persian cultural elements with strong symbolic and historical associations. Future research may therefore explore

whether similar patterns of value transformation emerge in other cultural contexts and heritage traditions. Finally, the present study primarily examined perceived value at a conceptual stage of innovation. Further research could extend the framework through longitudinal studies, user testing, and market-based ev

Conclusion

This study investigated how perceived value changes when Persian cultural artifacts are reinterpreted through design-driven innovation. The findings demonstrate that value transformation is selective rather than universal, with significant differences emerging primarily in utilitarian and socially embedded dimensions such as self-expression and status.

These results provide preliminary empirical support for the Innovation Paradox proposed in this study suggesting that meaning-driven innovation, when developed primarily through designer-centered interpretation, may unintentionally weaken specific forms of value associated with functional use and social recognition. Beyond its empirical findings, the study contributes conceptually by framing designer-centered evaluation as an analytical lens for understanding how meaning is constructed within DDI processes. The proposed three-stage framework further offers a practical approach for balancing exploratory meaning transformation with interpretive and functional validation.

Overall, the study suggests that successful meaning-driven innovation depends not only on generating new interpretations, but also on maintaining alignment between symbolic innovation, practical performance, and socially recognized value.

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