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Selecting the Best Pricing Strategy for Innovative Products

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Abstract

The purpose of this study is to identify and rank the most effective pricing strategies for innovative products in the Iranian market, with an emphasis on key influencing factors and the provision of a scientific framework for managerial decision-making. To this end, the main research question focused on determining the most critical factors affecting the selection of the optimal pricing strategy and how these factors can be applied within a systematic framework. The methodology employed was the Fuzzy Analytic Hierarchy Process (FAHP), which enabled precise prioritization of options based on multiple criteria and expert judgment. The statistical population of the study consisted of 10 individuals, including senior marketing managers and experts from companies active in the field of innovative products, as well as academic specialists in business management and marketing. The main criteria and sub-criteria were considered across four key dimensions—innovation (product development capability, life cycle, degree of innovativeness), marketing (target markets, launch timing, market scope, growth), product (ease of use, after-sales support, branding, patent protection), and technology (payment channels, consumption convenience, technological uniqueness). Six pricing strategies were evaluated as decision-making options: prestige pricing, versioning, windowing, exclusive products, fixed pricing, and dynamic pricing. Findings from the FAHP analysis revealed that prestige pricing (weight = 0.444) is the most suitable strategy for innovative products in the Iranian market. Versioning ranked second with a weight of 0.268, while other strategies such as windowing, exclusive product pricing, fixed pricing, and dynamic pricing occupied the subsequent ranks, respectively. The results, in addition to providing a clear picture of the prioritization of pricing strategies, confirm the use of fuzzy multi-criteria decision-making models as an effective tool for analyzing marketing challenges in the context of the Iranian market. These findings offer practical and scientific guidance for managers, policymakers, and researchers in the domain of innovative product pricing.

Keywords: *Pricing strategy, innovative products, fuzzy AHP, strategy selection*

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1. Introduction

Pricing is one of the most critical managerial decisions in marketing strategy, especially for innovative products that enter uncertain and competitive markets. In today's fast-changing global economy, price is no longer a static figure; it is a dynamic strategic tool that influences consumer behavior, market positioning, brand perception, and ultimately, firm profitability. As new products emerge more frequently, the need to design effective and adaptive pricing strategies has become essential for sustaining competitive advantage. The complexity of pricing innovative products lies in balancing multiple factors, such as product novelty, consumer innovativeness, market conditions, supply chain dynamics, and technological disruptions, all of which

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significantly shape the effectiveness of chosen strategies [1-3].

The significance of pricing for innovative products has been widely recognized in both theory and practice. Innovative products inherently involve high risk and uncertainty due to factors such as unpredictable consumer adoption, rapid technological change, and volatile competitive environments [4, 5]. Unlike established products, innovative offerings lack historical data on consumer demand, making the determination of optimal pricing even more challenging. Pricing decisions must therefore reflect not only cost considerations but also consumer perceptions of value, market acceptance trajectories, and diffusion of innovation patterns [6, 7]. For this reason, firms often face the dilemma of whether to pursue a skimming strategy—setting high prices to capture early adopters—or a penetration approach, offering lower prices to accelerate adoption and build market share.

The diffusion of innovations theory highlights that consumer adoption follows predictable patterns based on innovativeness, which directly influences pricing effectiveness [4, 5]. Early adopters are less price-sensitive and more attracted to novelty, while late adopters prefer lower prices and greater certainty regarding product performance. This dynamic suggests that pricing strategies must evolve alongside the product life cycle [8, 9]. Furthermore, innovation-based pricing emphasizes aligning price with perceived differentiation, technological superiority, and unique value propositions, thereby strengthening competitive positioning in high-tech or creative industries [3, 6].

Managerial frameworks increasingly stress that pricing is not solely a financial calculation but also a marketing and strategic decision [1, 2]. In this regard, firms must integrate pricing with product innovation, market intelligence, and communication strategies to enhance competitiveness [10, 11]. For example, pricing signals product quality and credibility in international markets, where firms balance standardization and adaptation in response to consumer heterogeneity [12, 13].

Pricing for innovative products also varies significantly across market contexts. In emerging economies, factors such as income distribution, competitive intensity, and institutional frameworks influence the adoption of pricing strategies [14, 15]. For instance, firms in markets with limited purchasing power often adopt adaptive pricing to balance affordability with profitability. In contrast, in mature economies, pricing strategies are increasingly integrated with digital platforms, advanced analytics, and artificial intelligence (AI), allowing for dynamic adjustment to real-time market conditions [16, 17].

Gamification and experiential marketing have also been shown to affect pricing outcomes, particularly in consumer-focused industries such as food and beverages [18]. By linking product value to consumer engagement, firms can strengthen willingness-to-pay while differentiating themselves from competitors. Similarly, studies in international marketing highlight the “seven C’s of strategic pricing”—culture, context, competition, cost, consumer, channel, and communication—as essential for achieving pricing effectiveness across diverse markets [13].

Emerging market contexts further require firms to adopt innovative strategies to overcome challenges related to consumer price sensitivity and lower purchasing power. Research indicates that strategies such as versioning, value bundling, and installment-based payment plans can facilitate greater accessibility without undermining firm profitability [14, 19]. Moreover, digital transformation in these markets has enabled new hybrid business models, such as buy-online-pick-up-in-store (BOPS), which integrate pricing with supply chain efficiency to enhance consumer satisfaction [20].

Pricing is deeply intertwined with production, supply chain management, and inventory decisions. Joint decision-making approaches have emerged to integrate pricing with production planning, trade credit, and maintenance scheduling, especially for perishable or high-turnover products [15, 17]. Such integration ensures alignment between supply capacity and consumer demand, reducing inefficiencies while optimizing revenue. In addition, green supply chain frameworks emphasize that pricing decisions must also account for sustainability factors, consumer loss aversion, and product recycling opportunities [19, 21].

Dynamic pricing, supported by AI and machine learning, has gained prominence in industries characterized by fluctuating demand and perishability, such as fresh produce [16]. By leveraging real-time data, firms can adjust prices to balance supply and demand, maximize freshness value, and reduce waste. Similarly, studies on successive-generation products have shown that trade-in policies combined with dynamic pricing strategies can enhance adoption rates while managing consumer expectations [9]. These operational insights demonstrate that pricing cannot be separated from broader strategic and logistical considerations.

Consumer psychology plays a pivotal role in pricing outcomes. Research demonstrates that factors such as

ambiguity tolerance, satisfaction, and perceived fairness significantly shape purchase decisions [7, 21]. For example, strategic consumers may delay purchases in anticipation of price reductions, compelling firms to design mechanisms that balance short-term sales with long-term profitability [22, 23]. Moreover, dynamic digital environments amplify the importance of transparency and trust, as consumers now expect fair and personalized pricing strategies [24].

The rise of e-commerce has further shifted consumer expectations, with ratings, reviews, and online reputation influencing willingness-to-pay [8]. Companies must therefore align pricing with reputation management strategies, ensuring consistency between consumer perceptions and actual product value. Moreover, consumer innovativeness and product newness significantly moderate the effectiveness of pricing strategies, suggesting that segmentation and personalization are essential for achieving competitive advantage [5].

Technological innovation continues to redefine pricing practices. Advanced analytics, big data, and AI allow firms to move beyond traditional cost-plus or competition-based pricing toward value-based and dynamic approaches [16, 25]. For instance, AI-based models enable predictive pricing that accounts for demand fluctuations, competitor behavior, and consumer sentiment in real-time. Moreover, pricing strategies are increasingly integrated into broader digital business models, where value capture extends beyond the product to include ecosystems, platforms, and services [24].

Innovative markets such as China have become laboratories for testing technology-enabled pricing strategies, including consumer behavior monitoring, blockchain-enabled transparency, and real-time payment channels [25]. These developments highlight that the future of pricing will be deeply intertwined with digital transformation and the evolution of Industry 4.0 ecosystems [13, 23].

Despite substantial progress in pricing research, several gaps remain. First, while numerous studies address pricing in developed economies, less is known about its application in emerging markets where institutional voids, cultural factors, and consumer behaviors differ significantly [10, 14]. Second, much of the existing literature focuses on either consumer psychology or supply chain integration, yet few studies holistically combine these perspectives [15, 19]. Third, the growing role of digital transformation in reshaping pricing strategies is still evolving, with research needed to understand its long-term impact on firm performance and consumer welfare [24, 25].

This study aims to address these gaps by examining and ranking pricing strategies for innovative products in the Iranian market, with a particular focus on integrating innovation, marketing, product, and technology dimensions.

2. Methodology

The present study is applied in terms of purpose and descriptive–survey in terms of data collection, as it relies on identifying and evaluating pricing strategies for innovative products and providing practical solutions for selecting the best option. In the literature review section, scientific sources including books, scientific–research articles, specialized reports, and valid internet documents were examined to identify strategies and indicators related to their selection. This stage resulted in the development of a list of four main criteria: innovation, marketing, product, and technology. In addition, six decision options were identified as evaluable alternatives: prestige pricing, versioning, windowing, exclusive product pricing, fixed pricing, and dynamic pricing.

In the field study section, data were collected through a pairwise comparison questionnaire based on the Fuzzy Analytic Hierarchy Process (FAHP). This questionnaire was designed to compare criteria and options based on the knowledge and experience of experts. The statistical population of the research consisted of two groups:

1. Senior managers and experts in marketing and strategy in companies engaged in the production or supply of innovative products,
2. University professors specializing in business management and marketing.

A purposive sampling method was used to select participants so that individuals with the highest level of knowledge and relevant experience could take part in the judgment process. In total, 10 experts participated in the study: five managers and specialists with at least 10 years of experience in marketing and product management, and five university faculty members with a PhD or Master's degree and a valid scientific background in the field of marketing. Furthermore, the implementation process of the research included the following steps:

1. Developing the hierarchical structure of the decision with three levels: goal (selecting the best pricing strategy), criteria (four main criteria), and decision options (six identified strategies).

2. Designing and completing the fuzzy pairwise comparison questionnaire for the criteria, and then for the options within each criterion.
3. Collecting data through in-person meetings and distributing questionnaires to experts.
4. Analyzing data using the FAHP method to calculate the relative weights of criteria and options. At this stage, triangular fuzzy numbers were used to express expert opinions, and after aggregating the judgments, the defuzzification process was applied to obtain the final weights.
5. Ranking the strategies based on the final weights to determine the optimal option.

The use of a fuzzy approach in the AHP method reduced the uncertainty and ambiguity present in human judgments and increased the accuracy of the results.

The Fuzzy Analytic Hierarchy Process is an extended version of the classical AHP, designed to model uncertainty and ambiguity in human judgments. In classical AHP, pairwise comparisons are performed with precise numerical values, but in FAHP, triangular fuzzy numbers are used to record a range of judgments (minimum, most likely, maximum). This approach enhances the ability to model vague or qualitative expert perceptions and increases the precision of the results (Saaty, 2021). For this purpose, qualitative evaluations are converted into corresponding fuzzy values through fuzzy linguistic expressions. The following table presents a sample of these conversions:

Table 1. Fuzzy Linguistic Expressions

Triangular Fuzzy Number (l, m, u)	Linguistic Expression
(1, 1, 1)	Equal importance
(1, 2/3, 2)	Slightly more important
(2/3, 2, 5/2)	More important
(2, 5/2, 3)	Much more important
(5/2, 3, 7/2)	Extremely more important

(l = lower bound, m = middle bound, u = upper bound)

After collecting the fuzzy values, the integration of judgments was carried out using geometric averaging, and then defuzzification was performed through the centroid method or a similar approach to obtain the precise weights of each criterion and option. Finally, comparing the precise weights enabled the ranking of options.

For data analysis and calculation of the relative weights of criteria and options, Expert Choice 11 software and the Fuzzy Analytic Hierarchy Process technique were used. First, the hierarchical structure of the decision was developed, and then the pairwise comparison questionnaires completed by the experts were analyzed.

The hierarchical decision structure included the main goal of selecting the optimal pricing strategy, four evaluation criteria (innovation, marketing, product, and technology), and six decision options identified from the literature review and expert opinions.

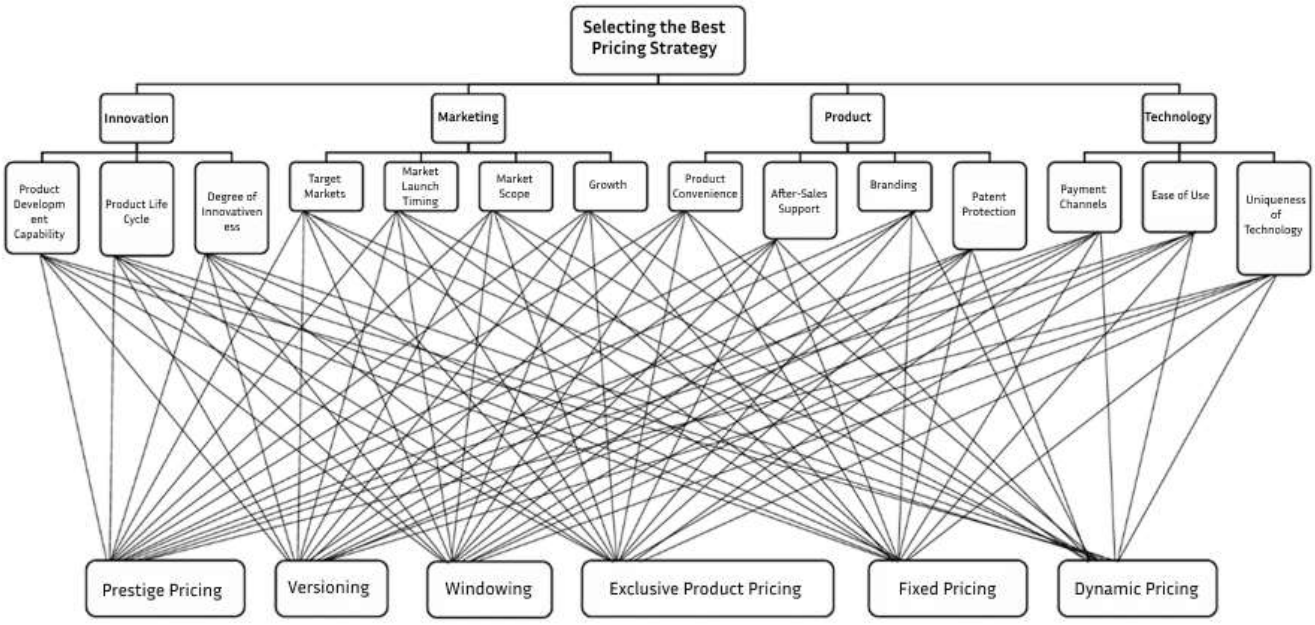

Figure 1. Hierarchical Decision Structure for Selecting the Best Pricing Strategy (Decision Tree)

3. Findings and Results

After collecting the pairwise comparison questionnaires of the criteria from all experts, the fuzzy data were aggregated using the geometric mean method and the triangular mean formula. Then, through the defuzzification process and the calculation of crisp values, the final pairwise comparison matrix was obtained. This matrix reflects the overall collective judgment of the experts and served as the basis for calculating the relative weight of the criteria and assessing the inconsistency ratio (CR).

Table 2. Pairwise Comparison Matrix of Criteria and Inconsistency Ratio

Rank	Final Weight of Sub-Criterion	Main Criterion Weight	Sub-Criterion Weight Relative to Main Criterion	CR	Sub-Criterion	CR	Criterion
7	0.042	0.607	0.070	0.06	Product Development Capability (C_{11})	0.05	Innovation (IN)
3	0.135		0.223	0.09	Product Life Cycle (C_{12})		
1	0.429		0.707	0.06	Degree of Innovativeness (C_{13})		
8	0.027	0.254	0.106	0.06	Target Markets (C_{21})	0.07	Marketing (MK)
4	0.070		0.274	0.05	Market Launch Timing (C_{22})		
2	0.147		0.578	0.08	Market Scope (C_{23})		
12	0.011		0.043	0.04	Growth (C_{24})		
14	0.004	0.099	0.044	0.08	Product Convenience (C_{31})	0.05	Product (PR)
11	0.011		0.114	0.05	After-Sales Support (C_{32})		
5	0.058		0.588	0.04	Branding (C_{33})		
9	0.025		0.255	0.05	Patent Protection (C_{34})		
13	0.005	0.073	0.073	0.06	Payment Channels (C_{41})	0.02	Technology (TE)
10	0.019		0.256	0.05	Ease of Use (C_{42})		
6	0.049		0.671	0.02	Uniqueness of Technology (C_{43})		

The results of the evaluation of the pairwise comparison matrix of the criteria and sub-criteria indicate that the Fuzzy Analytic Hierarchy Process in this study demonstrated an inconsistency ratio (CR) below the acceptable threshold of 0.1 across all levels. Therefore, the consistency of judgments can be trusted. Overall, at the criteria level, “Innovation”

with a weight of 0.307 was identified as the most important main criterion, highlighting the significance of product development and innovative features in the success of pricing strategies for innovative products. Following this, "Marketing" with a weight of 0.254 and "Product" with a weight of 0.199 ranked second and third, respectively. "Technology," with a weight of 0.173, although ranked fourth, still played a significant role in determining the pricing approach.

At the sub-criteria level, "Degree of Innovativeness" with a final weight of 0.129 ranked highest, emphasizing its pivotal role in product differentiation and its impact on pricing strategy. This was followed by "Market Scope" with a weight of 0.147 and "Product Life Cycle" with a weight of 0.135, identified as the second and third key factors, underscoring the importance of market accessibility and product life cycle timing. Conversely, the sub-criterion "Market Growth" with a weight of 0.011 ranked lowest, indicating that the stakeholders in this study considered gradual market growth to be less critical compared to other components. In summary, the table results demonstrate that focusing on innovation and market scope, alongside marketing considerations and product features, can guide the selection and optimal design of pricing strategies for innovative products. Moreover, the acceptable consistency level throughout the process validates the reliability of the findings and provides a solid foundation for subsequent stages of analysis and pricing option ranking.

After determining the weight and importance of each criterion and sub-criterion, in this stage the relative weight of each option under each sub-criterion was calculated using fuzzy pairwise comparisons and the defuzzification method. Table below presents the results of the weighting of options relative to each sub-criterion and the inconsistency ratio (CR) for each matrix.

Table 3. Option Weights under Each Sub-Criterion in the Fuzzy AHP Model

Sub-Criterion	Prestige Pricing (A_1)	Versioning (A_2)	Windowing (A_3)	Exclusive Product Pricing (A_4)	Fixed Pricing (A_5)	Dynamic Pricing (A_6)	CR
Product Development Capability (C_{11})	0.461	0.256	0.081	0.124	0.049	0.029	0.06
Product Life Cycle (C_{12})	0.406	0.307	0.125	0.077	0.058	0.027	0.09
Degree of Innovativeness (C_{13})	0.453	0.258	0.126	0.075	0.056	0.032	0.06
Target Markets (C_{21})	0.465	0.250	0.122	0.085	0.048	0.029	0.06
Market Launch Timing (C_{22})	0.431	0.285	0.111	0.093	0.050	0.031	0.05
Market Scope (C_{23})	0.451	0.266	0.119	0.085	0.049	0.030	0.08
Growth (C_{24})	0.481	0.243	0.107	0.085	0.052	0.032	0.04
Product Convenience (C_{31})	0.258	0.432	0.096	0.145	0.042	0.027	0.08
After-Sales Support (C_{32})	0.467	0.235	0.106	0.092	0.060	0.041	0.05
Branding (C_{33})	0.446	0.261	0.103	0.099	0.057	0.034	0.04
Patent Protection (C_{34})	0.464	0.255	0.111	0.091	0.049	0.030	0.05
Payment Channels (C_{41})	0.470	0.240	0.107	0.093	0.055	0.035	0.06
Ease of Use (C_{42})	0.435	0.270	0.096	0.109	0.054	0.036	0.05
Uniqueness of Technology (C_{43})	0.439	0.240	0.086	0.107	0.078	0.051	0.02

In marketing-related areas such as "Target Markets," "Market Launch Timing," "Market Scope," and "Growth," options A_1 (Prestige Pricing) or A_2 (Versioning) consistently achieved higher values compared to other options. For example, in "Target Markets," the highest weight of 0.465 belonged to Prestige Pricing, while in "Market Launch Timing" and "Market Scope," this strategy, along with Versioning (A_2), maintained a superior position. In product-related aspects such as "After-Sales Support" or "Branding," option A_1 again had the largest share, with weights of 0.467 and 0.446, respectively. Furthermore, in the sub-criterion "Product Convenience," strategies A_2 and A_1 held the highest importance, with weights of 0.432 and 0.258, respectively.

The overall pattern of the results in this table indicates that A_1 and, in some cases, A_2, hold absolute or relative superiority over other options in the majority of sub-criteria. In contrast, strategies such as "Dynamic Pricing" and "Exclusive Product Pricing" have generally received the lowest weights in most sub-criteria. This confirms that, from the respondents' perspective, the strategies of Prestige Pricing and Versioning demonstrate the greatest compatibility with the conditions of innovative products

when assessing the importance of innovation and marketing sub-criteria.

After calculating and presenting the relative weights of each option under each sub-criterion in the table, the final step of the FAHP process was devoted to calculating the overall weight of each option and determining their final rank. The purpose of this stage was to integrate the information obtained from the previous two sections—namely, the weight of the sub-criteria and the relative weight of options under each sub-criterion—to reach a comprehensive decision-making measure.

In fact, each sub-criterion in the FAHP model has a specific importance coefficient, determined in the table below based on expert judgment and following the processes of defuzzification and assessment of the inconsistency ratio (CR). This coefficient reflects the extent to which a sub-criterion influences the final decision. At the same time, it was shown how each option performed relative to others under each sub-criterion.

The calculation of the overall weight of each option was performed in a simple yet fundamental manner: the relative weight of an option in a particular sub-criterion was multiplied by the weight of that sub-criterion. This procedure was repeated for all sub-criteria, and the sum of these products constituted the overall weight of that option. The advantage of this method is that it simultaneously considers both the relative importance of criteria and sub-criteria and the performance evaluation of options. Thus, an option that performs better in key sub-criteria achieves a higher overall weight, even if it has weaker performance in less important sub-criteria.

It is noteworthy that at this stage, unlike earlier steps, there was no need to re-examine the inconsistency ratio (CR), since the input data for these calculations were already derived from consistent matrices, and any potential inconsistency had been previously identified and corrected. Therefore, the resulting overall weights are reliable and valid for final decision-making. Ultimately, for ranking purposes, the options were arranged in descending order of overall weight. The option with the highest overall weight was selected as the superior choice, and the other options were ranked accordingly. Table below presents the overall weights and final ranking of the six options under consideration, serving as the basis for selecting the superior pricing strategy for innovative products in this study.

Table 4. Overall Weights and Final Ranking of Options

Option	Weight	Rank
Prestige Pricing (A_1)	0.444	1
Versioning (A_2)	0.268	2
Windowing (A_3)	0.118	3
Exclusive Product Pricing (A_4)	0.084	4
Fixed Pricing (A_5)	0.031	5
Dynamic Pricing (A_6)	0.055	6

The results derived from the integration of weights across all criteria and sub-criteria in the FAHP process reveal that the Prestige Pricing strategy, with a final weight of 0.444, ranked first. This indicates that, from the experts' viewpoint, setting a price above the market average to establish a premium image and emphasize product quality and innovativeness is the most effective approach for innovative products. Following this, the Versioning strategy, with a weight of 0.268, ranked second, showing that differentiating features and designing multiple product versions for different market segments are considered significant in terms of competitiveness and revenue potential. The third rank was allocated to Windowing, with a weight of 0.118, which mainly focuses on launch timing and price differentiation across specific periods. Although less important than the top two strategies, this approach can still play a role in markets with high time sensitivity. The strategies of Exclusive Product Pricing, Dynamic Pricing, and Fixed Pricing, with weights of 0.084, 0.055, and 0.031, respectively, occupied the fourth to sixth ranks, indicating that approaches based on exclusivity or continuous price variability were found to be less attractive under the examined conditions.

4. Discussion and Conclusion

The findings of this study indicate that among the six pricing strategies evaluated for innovative products, prestige pricing emerged as the most effective choice, followed by versioning, windowing, exclusive product pricing, dynamic pricing, and fixed pricing. The results demonstrate that prestige pricing, with its emphasis on positioning the product as premium and leveraging consumer perceptions of quality

and innovativeness, aligns most strongly with the expectations and purchasing behavior of consumers in markets characterized by uncertainty and rapid technological change. This finding underscores the role of pricing as a strategic signal of differentiation and supports the argument that innovative products often benefit from strategies that emphasize uniqueness and exclusivity rather than price competition [2, 3].

The prominence of prestige pricing reflects broader theories of innovation diffusion, where early adopters and innovators are less price-sensitive and more motivated by status, novelty, and perceived product superiority [4, 5]. These consumer groups play a critical role in establishing the trajectory of adoption for new products, and their willingness to pay a premium ensures that firms can recover development costs and signal high value to the market. This outcome is consistent with previous studies highlighting that pricing strategies tied to innovativeness, such as skimming or premium approaches, are effective in the early stages of the product life cycle when differentiation is paramount [6, 8]. Moreover, the importance of prestige pricing in this context reflects consumer psychology findings that associate higher prices with perceptions of superior quality and brand strength [7].

Versioning, which ranked second, also emerged as a viable pricing strategy, particularly when addressing diverse market segments with varying levels of price sensitivity and willingness to pay. This finding aligns with the literature emphasizing the importance of designing multiple versions of a product to cater to different consumer groups and capture wider market share [10, 11]. By differentiating features across product versions, firms can appeal to both high-end consumers willing to pay a premium and cost-sensitive consumers seeking affordability, thereby balancing profitability with accessibility. This resonates with global pricing frameworks that highlight the balance between standardization and adaptation, suggesting that versioning enables firms to adapt to heterogeneous consumer needs without undermining core brand value [12, 13].

The third-ranking strategy, windowing, underscores the significance of timing in pricing decisions. By offering different prices at distinct time intervals, firms can maximize revenue by targeting early adopters first and gradually lowering prices to attract more price-sensitive segments. This result complements prior studies showing that consumer adoption and satisfaction are influenced by the timing of product availability, as well as the alignment of pricing with product life cycle stages [9, 22]. Windowing also reflects the increasing importance of dynamic consumer feedback mechanisms, such as online reviews and ratings, which affect perceptions of fairness and willingness to pay [8].

The relatively lower ranking of exclusive product pricing, dynamic pricing, and fixed pricing is also consistent with theoretical and empirical evidence. Exclusive product pricing, though effective in highly specialized or luxury contexts, often limits scalability and mass adoption, which may not be suitable for many innovative products entering broader markets [24]. Dynamic pricing, while gaining attention through advances in artificial intelligence and real-time data analysis, raises issues of consumer trust, fairness, and satisfaction, which can undermine its effectiveness in markets where transparency and consistency are valued [16, 25]. Fixed pricing, on the other hand, lacks the flexibility needed to respond to market fluctuations and consumer heterogeneity, making it the least effective choice in the context of innovative products [1].

These findings align with research emphasizing the integration of pricing with broader strategic and operational considerations. For instance, studies in supply chain and operations management highlight that pricing decisions must be coordinated with production, inventory, and trade credit policies to optimize outcomes [15, 17]. The emphasis on prestige pricing in this study suggests that firms value alignment between pricing and innovation capabilities, signaling to consumers not only product value but also organizational competence in managing complexity. This is further supported by studies demonstrating that innovative pricing strategies are most effective when embedded within comprehensive frameworks that integrate market intelligence, consumer insights, and operational efficiencies [11, 26].

The importance of consumer psychology in shaping the effectiveness of pricing strategies cannot be overstated. The finding that prestige pricing is most effective reinforces evidence that consumer perceptions of value are not solely determined by functional product features but also by symbolic and emotional associations [7, 21]. Consumers often interpret higher prices as indicators of higher quality, reliability, or innovativeness, particularly when uncertainty about product performance exists. At the same time, the viability of versioning reflects consumer heterogeneity in ambiguity tolerance and price sensitivity, suggesting that firms can benefit from offering tailored pricing strategies that align with distinct consumer segments [19, 23].

The findings also resonate with contemporary studies on digital transformation and pricing in the era of Industry 4.0. Prestige and versioning strategies can be enhanced through data analytics, artificial intelligence, and digital platforms, which enable firms to monitor consumer behavior, test different pricing models, and adjust strategies in real time [16, 25]. Moreover, innovative pricing models such as those seen in China demonstrate how firms can leverage emerging technologies to balance competitiveness with consumer satisfaction [13, 23]. In this sense, the results of the present study underscore the importance of aligning pricing decisions with technological capabilities to sustain competitiveness in increasingly digital markets.

From a theoretical perspective, these findings contribute to the literature on innovation-based pricing by confirming that premium-oriented strategies are most effective for products characterized by novelty and uncertainty. They also extend existing frameworks by demonstrating that while dynamic and exclusive pricing strategies are often highlighted in the literature, they may not always be effective in markets where consumer trust and transparency are key drivers of adoption [5, 24]. The study also reinforces the argument that pricing must be integrated with diffusion theory, product life cycle considerations, and consumer psychology, rather than being viewed as an isolated financial decision [4, 6].

These insights have important managerial implications. First, they suggest that firms seeking to launch innovative products should prioritize prestige pricing as a means of signaling quality and differentiation. Second, versioning should be employed to broaden accessibility and capture diverse market segments, especially in contexts with varying levels of consumer purchasing power. Third, managers should exercise caution in adopting dynamic or exclusive pricing strategies, ensuring that consumer trust and perceptions of fairness are maintained. Fourth, pricing must be integrated with digital tools and operational efficiencies to enhance responsiveness and competitiveness. Overall, the study demonstrates that pricing strategies are most effective when they are both consumer-centric and innovation-driven, reflecting the interplay between market forces, consumer behavior, and technological disruption.

Despite its contributions, this study is not without limitations. First, the sample size of experts was relatively small, which may limit the generalizability of the findings across different industries and markets. The reliance on expert judgment, while valuable, introduces subjectivity that may not fully capture broader consumer behavior or market dynamics. Second, the study focused exclusively on the Iranian market, which has unique cultural, institutional, and economic characteristics. This context-specific approach may limit the applicability of the findings to other regions with different market structures and consumer behaviors. Third, the study employed the Fuzzy Analytic Hierarchy Process, which, while effective in managing ambiguity and uncertainty, may not capture all dynamic aspects of pricing in real-world contexts where data-driven and algorithmic approaches play an increasingly significant role. Finally, the research did not examine longitudinal outcomes, meaning that the long-term effectiveness of the identified strategies could not be assessed.

Future studies could expand on this research in several ways. First, researchers may adopt larger and more diverse samples that include both experts and consumers to better capture the interplay between managerial decision-making and consumer behavior. Second, comparative studies across multiple countries or regions would provide insights into how cultural, institutional, and economic factors influence the effectiveness of pricing strategies for innovative products. Third, future work could integrate quantitative consumer data with expert evaluations to validate and refine the findings of this study. Additionally, longitudinal research designs could be employed to assess how pricing strategies evolve over time and how they influence long-term adoption, profitability, and brand positioning. Finally, given the growing role of digital transformation, further studies could explore how artificial intelligence, big data, and blockchain technologies reshape pricing strategies and consumer responses.

For practitioners, several recommendations emerge from this study. Firms introducing innovative products should strongly consider prestige pricing as a means of signaling value and differentiation, particularly in markets where innovation is associated with quality and exclusivity. At the same time, versioning should be used to appeal to diverse consumer groups and ensure that products are accessible across different purchasing power levels. Managers should be cautious in deploying dynamic or exclusive pricing strategies, ensuring that these approaches do not undermine consumer trust or perceptions of fairness. Pricing decisions should also be closely integrated with product innovation, marketing communication, and technological capabilities to maximize effectiveness. Finally, managers should continuously monitor consumer behavior, market dynamics, and technological trends to adapt pricing strategies in real

time, ensuring sustained competitiveness in rapidly evolving markets.

Authors' Contributions

Authors equally contributed to this article.

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All procedures performed in this study were under the ethical standards.

References

[1] P. Kotler, K. L. Keller, and A. Chernev, *Marketing management*. Pearson, 2022.
[2] T. T. Nagle, J. Hogan, and J. Zale, *The strategy and tactics of pricing: A guide to growing more profitably*. Routledge, 2021.
[3] A. Hinterhuber and S. M. Liozu, *Innovation in pricing: Contemporary theories and best practices*. Routledge, 2020.
[4] E. M. Rogers, *Diffusion of innovations*. Free Press, 2020.
[5] S. Yoon and K. Lee, "Price strategy for innovative products: The moderating role of product newness and consumer innovativeness," *Innovation: Organization & Management,* vol. 20, no. 2, pp. 134-150, 2018, doi: 10.1080/14479338.2018.1425906.
[6] O. Tarde, R. Smith, and L. Chen, "Innovation-based pricing: Market entry strategies for high-tech products," *Technovation,* vol. 94-95, p. 102001, 2020.
[7] H. Zhao, X. Yao, Z. Liu, and Q. Yang, "Impact of Pricing and Product Information on Consumer Buying Behavior With Customer Satisfaction in a Mediating Role," *Frontiers in Psychology,* vol. 12, p. 720151, 2021, doi: https://doi.org/10.3389/fpsyg.2021.720151.
[8] L. Tian and Y. Wu, "Pricing Strategies in Presence of Online Consumer Ratings - From the Product Customization Perspective," *Journal of Theoretical and Applied Electronic Commerce Research,* vol. 15, no. 3, pp. 84-100, 2020, doi: 10.4067/s0718-18762020000300107.
[9] X. Yuan, Z. Ma, and X. Zhang, "Dynamic Pricing for the Successive-Generation Products in the Presence of Strategic Customers and Limited Trade-in Duration," *Kybernetes,* vol. 52, no. 11, pp. 5329-5352, 2022, doi: 10.1108/k-02-2022-0237.
[10] N. Alizadeh and A. Tavan, "Determining Product Innovation Capacities, Market Intelligence, Pricing, and Marketing Communications on International Company Performance with the Mediating Role of Competitive Advantage," *Modern Management Engineering,* vol. 30, pp. 83-116, 2023. [Online]. Available: https://sanad.iau.ir/en/Journal/jmem/Article/1025146/FullText.
[11] H. Abbasi Esfanjani, "The Impact of Product Innovation Capabilities, Market Intelligence, Pricing, and Marketing Communications on Competitive Advantage and International Performance of Small and Medium-Sized Enterprises in Hormozgan Province," *International Business Management,* vol. 20, pp. 159-178, 2022. [Online]. Available: https://jiba.tabrizu.ac.ir/article_15714.html?lang=en.
[12] J. Lee and D. A. Griffith, "Price strategy in global markets: Balancing standardization and adaptation," *International Marketing Review,* vol. 39, no. 2, pp. 381-407, 2022.
[13] R. Schill and M. Nixon, "The seven 'C's of strategic pricing in international markets," *Journal of Cultural Marketing Strategy,* vol. 8, no. 2, pp. 175-191, 2024, doi: 10.69554/OCWL9175.
[14] N. H. Tien, D. B. H. Anh, and P. P. Phu, "Pricing strategies for innovative products in emerging markets," *Journal of Business and Economic Development,* vol. 8, no. 1, pp. 25-34, 2023.
[15] A. Salmasnia and A. Talesh-Kazemi, "Integrating inventory planning, pricing, and maintenance for perishable products in a two-component parallel manufacturing system with common cause failures," *Operations Research International Journal,* vol. 22, pp. 1235-1265, 2022, doi: 10.1007/s12351-020-00590-6.
[16] C. Yang, Y. Feng, and A. Whinston, "Dynamic pricing and information disclosure for fresh produce: An artificial intelligence approach," *Production and Operations Management,* vol. 31, no. 1, pp. 155-171, 2022, doi: 10.1111/poms.13525.
[17] L. Feng and Y. Chan, "Joint pricing and production decisions for new products with learning curve effects under upstream and downstream trade credits," *European Journal of Operational Research,* vol. 272, no. 3, pp. 905-913, 2022, doi: 10.1016/j.ejor.2018.07.003.
[18] A. Rakhmanita, R. Hurriyati, and P. D. Dirgantari, "Strategy of Gamification, Product and Pricing: Does It Matter on Buying Interests of Fore Coffee Consumers," *Sentralisasi,* vol. 11, no. 1, pp. 28-36, 2022, doi: 10.33506/sl.v11i1.1493.
[19] J. Xu, Q. Meng, Y. Chen, and Z. Jia, "Dual-Channel Pricing Decisions for Product Recycling in Green Supply Chain Operations: Considering the Impact of Consumer Loss Aversion," *International Journal of Environmental Research and Public Health,* vol. 20, no. 3, p. 1792, 2023, doi: 10.3390/ijerph20031792.
[20] A. S. Mahapatra, S. Sengupta, A. Dasgupta, B. Sarkar, and R. T. Goswami, "What is the impact of demand patterns on integrated online-offline and buy-online-pickup in-store (BOPS) retail in a smart supply chain mana gement?," *Journal of Retailing and Consumer Services,* vol. 82, p. 104093, 2025/1/1/ 2025, doi: 10.1016/J.JRETCONSER.2024.104093.
[21] J. Peng, Y. Zou, H. Zhang, L. Zeng, Y. Wang, and X. Li, "Pricing Decision-Making Considering Ambiguity Tolerance in Consumers: Evidence From Recycled Building Material Enterprises," *Systems,* vol. 13, no. 2, p. 98, 2025, doi: 10.3390/systems13020098.
[22] L. Shao, "The Pricing Decision and Channel Choice of Upgraded Products in the Presence of Strategic Consumers," *Mathematical Problems in Engineering,* vol. 2021, pp. 1-10, 2021, doi: 10.1155/2021/6674676.

[23] Y. Xu, "Comparison Between Different Pricing Models: Evidence From the Technology Industry," *Advances in Economics Management and Political Sciences,* vol. 59, no. 1, pp. 222-230, 2024, doi: 10.54254/2754-1169/59/20231126.
[24] M. L. Martín-Peña, E. Díaz-Garrido, and J. M. Sánchez-López, "Pricing strategies in the digital era: A review and research agenda," *Journal of Business Research,* vol. 123, pp. 252-265, 2021.
[25] L. Wang, "Leveraging Emerging Technologies in Pricing Strategies and Consumer Behavior: Case Studies From China's Innovative Markets," *Ijetaa,* vol. 1, no. 6, pp. 6-12, 2024, doi: 10.62677/ijetaa.2406121.
[26] A. A. Afaqhi Firimani, J. Marzi Almdari, and A. Deigh, "Examining the Relationship Between Product Pricing Strategies and Marketing Capabilities (Case Study: Manufacturing Companies Located in the Aras Free Zone)," in *7th National Conference on New Horizons in Humanities, Economics, and Entrepreneurship*, Tehran, 2023. [Online]. Available: https://civilica.com/doc/1992727.