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تصميم إطار لاتخاذ القرارات المالية لتحسين الإيرادات في منصات التذاكر الرقمية: التصميم والتحقق في السوق السعودية

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A Financial Decision-Making Framework for Revenue Optimization
in Digital Ticketing Platforms:
Design and Validation in the Saudi Market

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شكر وتقدير

الحمد لله أولاً وقبل كل شيء، الذي منح الباحث القدرة والعزيمة لإنجاز هذا البحث ثم يتقدم الباحث بخالص الشكر والتقدير إلى كل من أسهم في إنجاز هذا العمل.

يعبر الباحث عن امتنانه العميق لجامعة ميدأوشن لتوفيرها البيئة الأكاديمية والموارد اللازمة لإنجاز هذا البحث، إذ كانت التسهيلات التي قدمتها الجامعة أساسية في تحقيق هذا الإنجاز.

كما يعبر عن تقديره العميق للمشرف الدكتور الفيصل عبد الحميد والمشرف المشارك الدكتور فايز جراد لملاحظتهما الثاقبة ودعمهما الثابت طوال مسيرة البحث، إذ كانت توجيهاتهما مفيدة في تشكيل اتجاه الدراسة وجودتها.

يمتن الباحث كذلك لعائلته وأصدقائه على تشجيعهم وفهمهم خلال أصعب مراحل الرحلة الأكاديمية. وأخيراً، يتقدم بالشكر لمجتمع البحث ولجنة المحكمين الذين أثروا هذا البحث بخبراتهم.

الباحث

الملخص العربي

هدفت هذه الدراسة إلى تصميم إطار متكامل لاتخاذ القرارات المالية (FDMF) لتحسين الإيرادات في منصات التذاكر الرقمية في المملكة العربية السعودية، في ضوء التحول الجذري الذي يشهده قطاع الترفيه والفعاليات منذ انطلاق رؤية 2030. اعتمد البحث منهجية بحثية تكاملية تجمع بين التحليل النظري لنماذج إدارة الإيرادات والتسعير الديناميكي، والتحليل الميداني لخصائص السوق السعودية، والتصميم النظري للإطار المقترح.

تستند الدراسة إلى أربعة محاور نظرية متكاملة: نظرية إدارة الإيرادات، نظرية اتخاذ القرارات المالية متعددة المعايير (MCDA/MAUT)، اقتصاديات المنصات ثنائية الاتجاه، ونظرية السلوك الاستهلاكي في الأسواق الناشئة. وقد خلصت الدراسة إلى أن تبني نماذج التسعير الديناميكي يمكن أن يرفع إيرادات منصات التذاكر بنسبة تتراوح بين 10% و25% مقارنةً بأنظمة التسعير الثابت، وأن المنصات التي طبقت الذكاء الاصطناعي في التسعير شهدت ارتفاعاً بنسبة 15% في متوسط الإيراد لكل حضور.

قدّمت الدراسة توصيات عملية لمشغلي المنصات تشمل: تطبيق تدريجي لنماذج التسعير الديناميكي مع مراعاة التقويم الإسلامي، بناء وحدات تسعير جماعي للاستجابة لأنماط الشراء الأسري السائدة في السوق السعودية، وتطوير نماذج توقع الطلب المعدلة موسمياً.

الكلمات المفتاحية: إدارة الإيرادات، التسعير الديناميكي، منصات التذاكر الرقمية، اتخاذ القرارات المالية، رؤية 2030، السوق السعودية.

English Abstract

This study aims to design a comprehensive Financial Decision-Making Framework (FDMF) for revenue optimization in digital ticketing platforms in Saudi Arabia, in the context of the transformative growth in the entertainment and events sector driven by Vision 2030. The research employs an integrative methodology combining theoretical analysis of revenue management and dynamic pricing models, empirical analysis of Saudi market characteristics, and design science research for the proposed framework.

The study draws on four integrated theoretical perspectives: Revenue Management Theory, Multi-Criteria Financial Decision Analysis (MCDA/MAUT), Two-Sided Platform Economics, and Consumer Behavior Theory in Emerging Markets. Key findings indicate that the adoption of dynamic pricing models can increase ticketing platform revenues by 10–25% compared to static pricing systems, and that platforms leveraging AI-driven dynamic pricing have demonstrated a 15% uplift in average revenue per attendee.

The study presents practical recommendations for platform operators, including: phased implementation of dynamic pricing models accounting for the Islamic calendar, development of group pricing modules responsive to Saudi family-purchase behavior patterns, and construction of seasonally adjusted demand forecasting models calibrated to the Saudi market's unique cultural demand cycles.

Keywords: Revenue management, dynamic pricing, digital ticketing platforms, financial decision-making, Vision 2030, Saudi Arabian market.

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Chapter One: Introduction — الفصل الأول: المقدمة

1.1 Introduction

The rapid digitization of sports and entertainment industries has fundamentally transformed how consumers access and purchase event tickets. Saudi Arabia's live events market has undergone structural transformation since 2016, driven by the Vision 2030 initiative. The General Entertainment Authority (GEA) now licenses over 8,500 events annually, generating attendance exceeding 72 million visitors in 2023 — compound annual growth of approximately 55% since 2016 (GEA, 2023).

Despite this explosive growth, digital ticketing platform operators in Saudi Arabia continue to rely on ad hoc, static pricing approaches rather than systematic financial decision-making models. This study proposes a comprehensive Financial Decision-Making Framework (FDMF) that integrates dynamic pricing theory, multi-criteria financial decision analysis, platform economics, and consumer behavior theory to address this critical gap.

Research Gap: Prior studies have predominantly focused on the technological dimensions of digital ticketing while neglecting the financial decision-making processes that determine platform profitability. Furthermore, existing frameworks were developed for mature Western markets and are structurally inapplicable to Saudi Arabia's distinct demand patterns and cultural calendar effects.

1.2 Problem Statement

Three interconnected problems motivate this research:

2.1 Absence of Integrated Financial Decision-Making Models: Current literature on digital ticketing focuses on technological aspects — blockchain verification, mobile platform design — while neglecting the financial processes that determine profitability. The GEA licensed 5,337 events in 2023 yet no standardized financial decision framework governs how ticketing platforms price, allocate capacity, or optimize revenue across this portfolio (GEA, 2023).

2.2 Suboptimal Revenue Realization: Research demonstrates that dynamic pricing adoption can increase revenue per available unit by 10–25% versus static pricing (Talluri & van Ryzin, 2004). Saudi AI-driven platforms have demonstrated a 15% revenue per attendee uplift (Mordor Intelligence, 2026), confirming the scale of forgone revenue from current static approaches.

2.3 Lack of Context-Specific Frameworks: Existing frameworks were built for mature Western markets and do not account for Saudi Arabia's Islamic calendar effects, family-group purchase patterns, compressed purchase lead times, or the rapid scaling dynamics of a market growing at 55% annually.

1.3 Study Objectives

1.3.1 Primary Objectives

1. To design a comprehensive Financial Decision-Making Framework (FDMF) for revenue optimization in digital ticketing platforms.
2. To identify the key financial drivers of revenue performance in digital ticketing operations.
3. To develop and validate dynamic pricing models applicable to event ticketing in emerging markets.

1.3.2 Secondary Objectives

4. To analyze existing revenue management practices in Saudi Arabia and comparable markets.
5. To examine the relationship between operational variables (event type, capacity, lead time) and financial outcomes.
6. To provide practical recommendations for platform operators seeking to implement data-driven revenue optimization strategies.

1.4 Importance of the Study

Scientific Importance: This study is the first of its kind to integrate revenue management theory with platform economics within a unified, empirically-designed FDMF in the Saudi Arabian digital ticketing context. It contributes to a documented gap in academic literature and offers a replicable methodology for future research in comparable emerging markets.

Practical Importance: Provides a directly applicable framework for platform operators enabling evidence-based financial decision-making. Supports the financial sustainability of Saudi Arabia's Vision 2030 entertainment ecosystem, where the GEA has allocated SAR 12

billion annually and the sector targets SAR 50 billion contribution to GDP by 2030 (GEA, 2023; Vision 2030, 2024).

1.5 Research Questions

Central Research Question: How can a Financial Decision-Making Framework be designed to systematically optimize revenue in digital ticketing platforms operating in emerging markets?

Subsidiary Research Questions:

- 7. What are the primary financial and operational variables that determine revenue performance in digital ticketing platforms?
- 8. To what extent do current pricing strategies in digital ticketing platforms align with theoretically optimal dynamic pricing models?
- 9. What contextual factors specific to the Saudi Arabian market must be incorporated to ensure the framework's practical applicability?
- 10. How can financial decision-making frameworks balance short-term revenue maximization with long-term platform sustainability?

1.6 Research Hypotheses

H1	Digital ticketing platforms implementing dynamic, demand-responsive pricing models achieve significantly higher revenue per available seat (RevPAS) than those using static pricing structures.
H2	The adoption of an integrated financial decision-making framework is positively associated with improvement in overall platform profitability.
H3	Contextual market factors (event category, audience demographics, cultural calendar, and regional economic indicators) significantly moderate the relationship between pricing strategy and revenue outcomes in the Saudi Arabian market.
H4	There exists a measurable trade-off between short-term revenue maximization strategies and long-term customer lifetime value in digital ticketing platforms.

1.7 Theoretical Framework

This study integrates four theoretical perspectives:

T1 — Revenue Management Theory: Provides core pricing and capacity optimization logic. The EMSR model (Belobaba, 1987) is adapted for multi-event ticketing environments where demand across fixtures shares consumer pools.

T2 — Financial Decision Theory (MCDA/MAUT): Multi-criteria decision analysis (Dyer, 2005) provides the analytical structure incorporating financial, operational, and market metrics into a coherent decision calculus.

T3 — Platform Economics & Value Co-Creation: Two-sided market theory (Rochet & Tirole, 2003; Parker & Van Alstyne, 2005) ensures the FDMF balances revenue capture with value creation for both organizers and consumers.

T4 — Consumer Behavior Theory in Emerging Markets: Addresses the structurally distinct behavioral patterns of Saudi event consumers: high price sensitivity, group-purchase preference, compressed lead times, and Islamic calendar seasonality effects (Shukla, 2012; Verma & Singh, 2023).

1.8 Study Scope and Limitations

Spatial scope: Digital ticketing platforms operating in the live events sector in Saudi Arabia.

Temporal scope: 2018–2025, corresponding to the Vision 2030 accelerated growth phase.

Subject scope: Revenue optimization processes including dynamic pricing, demand forecasting, and capacity management.

Limitations include: data availability constraints from private operators, the rapidly evolving regulatory environment, and the applicability boundaries of a framework designed primarily for the Saudi context.

Chapter Two: Literature Review — الفصل الثاني: الدراسات السابقة

2.1 Introduction

The literature relevant to this study spans three domains: revenue management and dynamic pricing, digital platform economics, and financial decision-making frameworks. This chapter presents prior studies organized by domain, proceeding from oldest to most recent within each domain, followed by a comparative analysis identifying convergence, divergence, and the research gap that motivates this study.

2.2 Domain 1: Dependent Variable — Revenue Optimization in Digital Ticketing

2.2.1 Theoretical Foundations of Revenue Optimization

Littlewood (1972) established the foundational model for capacity-based pricing in perishable-inventory contexts, introducing expected marginal seat revenue concepts. Belobaba (1987) extended this into the EMSR model, providing a computationally tractable approach for capacity allocation across pricing tiers — the model this study adapts for the ticketing context. Talluri and van Ryzin (2004) demonstrated that integrated revenue management systems outperform isolated pricing decisions by 8–15% in revenue per available unit.

Courty (2003) and Leslie and Sorensen (2014) examined primary and secondary market dynamics in event ticketing, finding that primary market pricing inefficiencies create substantial arbitrage opportunities. Their work suggests that improvements in primary market pricing frameworks could simultaneously reduce secondary market price premiums and improve primary market revenues — findings with direct implications for Saudi Arabia's nascent secondary market.

2.2.2 Contemporary Digital Applications

Cachon, Daniels, and Lobel (2017) demonstrated that surge pricing mechanisms on service platforms improve both supply-side efficiency and overall platform revenue. Einav and Levin (2014) showed that large-scale behavioral data substantially improves demand forecasting accuracy. Aydin, Parmaksız, and Sircar (2025) developed a mean-field stochastic model for dynamic ticket pricing across competitive multi-seller environments, demonstrating that competition significantly modifies optimal pricing strategies — directly relevant to Saudi Arabia's multi-platform market. A 2025 study in the *Journal of Cultural Economy* documented

social resistance to algorithmic dynamic pricing in live event markets, highlighting consumer behavior dimensions that any practical framework must accommodate.

2.3 Domain 2: Independent Variable — Financial Decision-Making Framework Design

2.3.1 Multi-Criteria Decision Analysis

Dyer (2005) established the formal basis for multi-attribute utility theory (MAUT) as a structured approach to decisions involving multiple conflicting criteria — the methodological foundation for the FDMF. Eisenhardt and Sull (2001) demonstrated that well-designed decision rules outperform complex optimization in rapidly changing environments. Slack, Brandon-Jones, and Johnston (2019) provided the operations management framework for service industry decision-making, including the key operational metrics — seat utilization, lead time management, capacity allocation — that the FDMF incorporates.

2.3.2 Platform Economics

Rochet and Tirole (2003) established that optimal platform pricing in two-sided markets departs significantly from standard monopoly pricing due to demand interdependence across both sides. Parker and Van Alstyne (2005) formalized two-sided network effects, demonstrating that platform value accrues disproportionately as participation scales. The global online event ticketing market, valued at USD 72.84 billion in 2024 and projected to reach USD 107.1 billion by 2032 (SNS Insider, 2024), underscores the platform economics dimension of revenue optimization.

2.4 Summary and Analysis of Previous Studies

The comparative table below synthesizes the key studies reviewed, organized from oldest to most recent, identifying each study's focus, methodology, findings, and the gap it leaves for this research:

Author(s) & Year	Domain	Method	Key Finding	Gap for This Study
Littlewood (1972)	Revenue Mgmt	Analytical model	EMSR model for perishable inventory	Not applied to event ticketing

Belobaba (1987)	Revenue Mgmt	Mathematical model	Capacity allocation across price tiers	No multi-event environment
Talluri & van Ryzin (2004)	Revenue Mgmt	Comprehensive theory	Integrated RM systems: +8–15% RevPAU	No digital platform context
Courty (2003)	Ticketing	Economic analysis	Primary market inefficiency creates arbitrage	No framework design
Rochet & Tirole (2003)	Platform Econ	Two-sided markets	Optimal pricing departs from monopoly	Not applied to ticketing
Parker & Van Alstyne (2005)	Platform Econ	Network effects	Value scales with participation	No revenue optimization
Dyer (2005)	Decision Theory	MAUT framework	Multi-criteria decision structure	Not applied to ticketing ops
Eisenhardt & Sull (2001)	Strategy	Case research	Simple rules outperform in dynamic markets	No financial modeling
Slack et al. (2019)	Operations Mgmt	Textbook	Operational metrics framework	No digital platform context
Leslie & Sorensen (2014)	Ticketing	Empirical	Better primary pricing reduces secondary arbitrage	No Saudi context
Cachon et al. (2017)	Platform pricing	Mathematical	Surge pricing improves platform revenue	Not event ticketing
Einav & Levin (2014)	Digital markets	Big data	Data improves demand forecasting	No ticketing application
Aydin et al. (2025)	Dynamic pricing	Stochastic model	Competition modifies optimal pricing	No emerging market context
GEA (2023/2024)	Saudi Market	Industry report	72M attendees; 5,337 events in 2023	No pricing framework

What This Study Adds Compared to Previous Studies: While prior studies address revenue management, platform economics, and consumer behavior in isolation, this study uniquely integrates all three domains within a single Financial Decision-Making Framework (FDMF) validated in the Saudi Arabian digital ticketing context. No published study has: (a) applied an integrated FDMF to digital ticketing in the Saudi or GCC market; (b) incorporated Islamic calendar demand modulation as a core framework component; or (c) combined quantitative financial simulation with expert panel validation in this specific industry and cultural context. The current study therefore fills a three-dimensional gap — theoretical, contextual, and methodological — that collectively constrains the revenue optimization capacity of Saudi digital ticketing platforms.

2.5 Research Gap and Study Contribution

A comparative review reveals three convergent findings: revenue management theory has demonstrably high applicability to perishable-inventory industries; digital platform economics demands two-sided pricing considerations that isolated revenue management models do not capture; and consumer behavior in emerging markets is structurally distinct from mature Western markets. The critical divergence is that no published study integrates all three domains within a single empirically-validated framework applied to the Saudi or GCC ticketing market.

This study uniquely addresses this three-dimensional gap by designing an integrated FDMF that simultaneously incorporates revenue management optimization logic, two-sided platform pricing mechanisms, and consumer behavior theory calibrated to the .Saudi emerging market context — a combination that no prior research has assembled

2.6 Theoretical Framework of the Study

The four theoretical pillars of this study interact as follows: Revenue Management Theory (T1) determines the pricing optimization logic; Financial Decision Theory — MCDA/MAUT (T2) provides the decision-making structure; Platform Economics (T3) ensures organizer-consumer value balance; and Consumer Behavior Theory in Emerging Markets (T4) calibrates the framework to Saudi Arabia's behavioral realities. All four operate within a Market Context layer that captures the Islamic calendar, regulatory environment, and demographic profile of Saudi event consumers.

Figure 2.1: Conceptual Model of the FDMF — نموذج إطار اتخاذ القرارات المالية

[T1: Revenue Management Theory] + [T2: MCDA / MAUT] + [T3: Platform Economics]

Moderated by:

[T4: Consumer Behavior Theory in Emerging Markets]

Further moderated by: Islamic Calendar Effects | GEA Regulatory Framework | Saudi Demographics

OUTCOME: Revenue Per Available Seat (RevPAS) Optimization

Source: Developed by the researcher based on Belobaba (1987), Dyer (2005), Rochet & Tirole (2003), Shukla (2012).

The conceptual model illustrates that RevPAS optimization is the dependent outcome, determined by the joint operation of the three core theoretical pillars (T1, T2, T3), moderated by emerging market consumer behavior theory (T4), and further conditioned by Saudi Arabia's unique market context. This integrated structure directly maps to the four research hypotheses (H1–H4) and provides the theoretical scaffolding for the FDMF design presented in Chapter Four.

Chapter Three: Research Methodology — الفصل الثالث: منهجية الدراسة

3.1 Introduction

This chapter presents the research methodology adopted to achieve the study's objectives, covering the research design, study community, sample characteristics, sample size determination, data collection procedures, scope and limitations, and the statistical analysis methods employed.

3.2 Research Design

This study adopts a mixed-methods research design, combining qualitative framework design with quantitative validation. This approach is appropriate given the dual objectives: developing a theoretically grounded FDMF (Design Science Research paradigm) and validating it against expert assessments and secondary market data. The mixed-methods design is aligned with established practice in financial framework design research (Dyer, 2005; Slack et al., 2019).

The research proceeds through five phases: (1) Literature Review and Framework Conceptualization, (2) Saudi Market Context Analysis, (3) FDMF Design and Modeling, (4) Expert Panel Validation, and (5) Results Analysis and Recommendations.

3.3 Research Community

The study community comprises two groups. First, senior operations and financial managers at digital ticketing platforms operating in Saudi Arabia with a minimum of two years of operations history, operating across sports, entertainment, and family entertainment event categories. Second, academic experts in revenue management, platform economics, and financial decision-making frameworks in the GCC context. This community encompasses platforms such as webook, Ticketmaster Saudi Arabia, SELA Tickets, and comparable operators.

3.4 Sample Characteristics

The qualitative component employs purposive sampling targeting senior practitioners with direct responsibility for pricing and revenue decisions. The expert validation panel comprises both academic experts (revenue management, platform economics) and senior industry practitioners (operations managers, CFOs of ticketing platforms). Sample selection criteria include: minimum 2 years in digital ticketing operations in Saudi Arabia, direct involvement in pricing or revenue management decisions, and representation across event categories (sports, entertainment, family).

3.5 Sample Size Determination

For the qualitative interview component, a target sample of 12–18 practitioners is anticipated to achieve theoretical saturation (Guest, Bunce & Johnson, 2006). For the expert panel validation, a minimum of 8 expert panelists is required to ensure adequate coverage of both academic and practitioner perspectives, consistent with Delphi validation methodology (Hsu & Sandford, 2007).

For secondary data analysis, the study utilizes all available GEA annual reports (2018–2024), Saudi Vision 2030 entertainment sector impact assessments, and industry databases (Statista, PwC Entertainment & Media Outlook), constituting a census of available institutional data for the study period.

3.6 Data Collection Procedures

3.6.1 Primary Data — Qualitative Interviews

Semi-structured interviews are conducted with senior operations and financial managers at Saudi digital ticketing platforms. The interview guide covers: current pricing practices and decision-making processes, demand forecasting approaches and challenges, revenue management priorities and constraints, attitudes toward dynamic pricing adoption, and market-specific factors influencing pricing decisions. Interviews are audio-recorded with participant consent, transcribed verbatim, and returned to participants for member checking.

3.6.2 Primary Data — Expert Panel Validation

The FDMF is validated through an expert panel questionnaire designed on a Likert scale (1–5) assessing framework comprehensiveness, applicability, and practical utility across its four theoretical dimensions. The panel comprises academic experts in revenue management and senior industry practitioners. Results are analyzed using content validity ratio (CVR) and expert agreement metrics.

3.6.3 Secondary Data

Secondary data sources include: Saudi General Entertainment Authority (GEA) annual reports (2018–2024), Vision 2030 progress reports and entertainment sector impact assessments, industry databases (Statista, PwC Entertainment & Media Outlook), and publicly available financial disclosures from ticketing operators.

3.7 Study Scope and Limitations

Spatial scope: Saudi Arabia — live events sector (sports and entertainment).

Temporal scope: 2018–2025, the Vision 2030 accelerated growth phase.

Subject scope: Revenue optimization in digital ticketing platforms — pricing, forecasting, capacity management.

Data availability limitation: Financial data from private operators may be limited; mitigated by direct industry access through the researcher's professional position.

Generalizability limitation: Framework designed primarily for the Saudi context; direct generalizability to mature Western markets is limited.

Evolving context limitation: Saudi entertainment market evolves rapidly; some findings may require updating as the market matures.

3.8 Statistical Analysis Methods

The study employs the following analytical tools:

- Content validity ratio (CVR) for expert panel questionnaire validation — assesses the degree to which expert panelists agree that each FDMF component is essential.
- Descriptive statistics (means, standard deviations, frequency distributions) for secondary market data analysis.
- Thematic analysis (NVivo software) for qualitative interview data — themes are mapped to the four theoretical dimensions of the FDMF.
- Financial simulation modeling (Microsoft Excel and Python — NumPy, Pandas, SciPy) for quantitative FDMF back-testing against historical Saudi ticketing data.
- Scenario analysis and Monte Carlo simulation for probabilistic assessment of FDMF performance under varying market conditions.

Chapter Four: Findings & Recommendations — الفصل الرابع: النتائج والتوصيات

4.1 Introduction

This chapter presents the analytical findings of the study, comprising: (1) analysis of Saudi Arabia's digital ticketing market structure, (2) assessment of current revenue management practices against the theoretical optima, (3) design and specification of the Financial Decision-Making Framework (FDMF), (4) hypothesis assessment based on secondary market evidence, and (5) practical recommendations for platform operators.

4.2 Data Analysis: Saudi Digital Ticketing Market

4.2.1 Market Structure and Revenue Performance

Analysis of GEA annual reports and industry data reveals the following market profile for Saudi Arabia's digital ticketing sector (2023–2024):

Market Indicator	2022	2023	2024	Growth Rate
Total Event Attendance (M)	61.5M	72M	68M*	Est. +55% CAGR since 2016
Licensed Events per Year	4,527	5,337	5,526	+4% YoY
Saudi Pro League Attendance	0.7M	1.8M	N/A	+157% YoY
Online Ticketing Penetration	~45%	~58%	~65%	Rapidly growing
AI Dynamic Pricing Adoption	<5%	~8%	~12%	Early stage
Avg Revenue per Attendee — Static	SAR 145	SAR 152	SAR 158	+4.5% YoY
Avg Revenue per Attendee — Dynamic	N/A	N/A	SAR 182	~15% premium

*2024 attendance figure reflects seasonal distribution effects. Sources: GEA (2023, 2024); Mordor Intelligence (2026); Custom Market Insights (2026).

4.2.2 Current Pricing Practice Assessment

Analysis of current practices in Saudi digital ticketing reveals a significant gap between current and optimal revenue management. The vast majority of platforms (estimated 88%) continue to use static or semi-dynamic pricing, setting prices weeks before events without real-time demand adjustment. This contrasts sharply with the aviation and hospitality sectors — which operate in Saudi Arabia with sophisticated dynamic pricing — and represents the primary source of suboptimal revenue realization identified in the problem statement.

Key practice deficiencies identified include: absence of demand forecasting systems calibrated to the Islamic calendar, lack of group pricing modules despite the prevalence of family-group purchases (estimated 65% of transactions), absence of lead-time-based pricing tiers, and no systematic capacity management across multi-event portfolios.

4.3 The Financial Decision-Making Framework (FDMF)

4.3.1 FDMF Architecture

The proposed FDMF integrates four operational modules, each grounded in the corresponding theoretical pillar:

Module	Theoretical Basis	Operational Function	Key Variables
Module 1: Dynamic Pricing Engine	Revenue Mgmt Theory (T1)	Real-time price adjustment based on demand signals	Lead time, capacity utilization, demand velocity
Module 2: Financial Decision Dashboard	MCDA/MAUT (T2)	Multi-criteria optimization across revenue, margin, utilization	Revenue, margin, CLV, utilization rate
Module 3: Two-Sided Value Balancer	Platform Economics (T3)	Organizer fee ↔ consumer price optimization	Organizer fee, consumer WTP, platform margin
Module 4: Saudi Market Calibrator	Consumer Behavior Theory (T4)	Cultural calendar, group pricing, lead-time adjustment	Ramadan factor, Eid spike, group discount rate

4.3.2 FDMF Decision Rules

The FDMF operates through a structured decision sequence:

11. Demand signal capture: real-time tracking of purchase velocity, remaining capacity, days-to-event, and cultural calendar position.

12. Saudi Market Calibration (Module 4): adjust base demand forecast for Islamic calendar effects (Ramadan factor: −15% to +25% depending on event type; Eid factor: +40–60% demand spike).
13. Two-sided value check (Module 3): verify that proposed price adjustments maintain organizer satisfaction threshold (minimum margin guarantee) while maximizing consumer yield.
14. MCDA scoring (Module 2): score the proposed pricing decision against the four criteria (revenue, margin, utilization, customer lifetime value) using MAUT attribute weights elicited from the expert panel.
15. Dynamic price output (Module 1): implement the EMSR-derived optimal price for the current demand state, with group pricing adjustments applied for purchases of 3+ tickets.

4.4 Research Findings and Hypothesis Assessment

Hypothesis	Evidence from Market Data	Assessment	Support Level
H1: Dynamic pricing → higher RevPAS	AI-driven platforms: +15% revenue per attendee (Mordor Intelligence, 2026); adjacent industries: +10–25% (Talluri & van Ryzin, 2004)	Supported by secondary evidence	Strong — pending primary validation
H2: FDMF adoption → improved profitability	Expert consensus in Delphi studies consistently shows integrated frameworks outperform ad hoc approaches; aviation/hotel analogues confirm	Theoretically supported	Moderate — requires primary field testing
H3: Cultural calendar moderates pricing outcomes	GEA data shows 40–60% demand spikes at Eid; Ramadan produces distinct compressed demand patterns absent from Western models	Strongly supported	Strong — confirmed by GEA data
H4: Trade-off between short-term revenue and CLV	Literature on dynamic pricing resistance (Journal of Cultural Economy, 2025) shows consumer backlash when	Partially supported — trade-off exists	Moderate — quantification required

	prices rise >30%; contradicts pure short-term max		
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4.5 Discussion

The findings confirm the central proposition of this study: that Saudi digital ticketing platforms are operating significantly below their revenue optimization potential due to the absence of integrated financial decision-making frameworks. The 15% revenue uplift documented for AI-driven dynamic pricing platforms, set against the 88% of platforms still using static approaches, represents a substantial market-wide forgone revenue opportunity.

The hypothesis assessments suggest that H1 and H3 are strongly supported by available secondary evidence, while H2 and H4 require primary validation through the full research implementation. Notably, H4 — the CLV trade-off hypothesis — introduces an important constraint on revenue maximization strategy: unconstrained dynamic pricing can damage consumer trust and reduce repeat purchase rates, particularly in a market still developing consumer familiarity with dynamic pricing norms. This finding informs the FDMF's conservative ceiling-pricing design principle.

Compared with prior studies, this study's findings extend Talluri and van Ryzin's (2004) foundational revenue management theory into a novel digital ticketing context in an emerging market, corroborate Cachon et al.'s (2017) findings on surge pricing efficiency, and add new dimensions — particularly the Islamic calendar moderation effect (H3) — that no prior study has empirically documented in the Saudi context.

4.6 Practical Recommendations

Recommendation 1: Phased Dynamic Pricing Implementation

Platform operators should implement dynamic pricing in three phases: Phase 1 (0–6 months) — introduce time-based pricing tiers (early bird, standard, last-minute) without real-time adjustment; Phase 2 (6–18 months) — introduce demand-velocity-based adjustments with moderate ceiling constraints (maximum 25% above base price); Phase 3 (18+ months) — full FDMF deployment with all four modules active. This phased approach mitigates consumer resistance documented in the dynamic pricing backlash literature.

Recommendation 2: Islamic Calendar Integration

All pricing models must incorporate Islamic calendar adjustment factors. Recommended parameters based on GEA data analysis: Ramadan period — apply category-specific adjustments (family entertainment: +15–25%; concerts: –10–15%; sports: neutral); Eid Al-Fitr and Eid Al-Adha — activate surge pricing with hard ceiling of 40% above base price to balance revenue capture with cultural sensitivity.

Recommendation 3: Group Pricing Module

Given that an estimated 65% of Saudi event ticket purchases are group/family transactions, platforms should implement dedicated group pricing tiers: 3–5 tickets: 5% discount; 6–10 tickets: 10% discount; 11+ tickets: 15% discount. Group pricing generates higher absolute revenue per event through volume, and is critical for maximizing customer lifetime value (directly addressing H4).

Recommendation 4: Organizer Partnership Framework

To address the two-sided market dimension (H2, Module 3), platforms should establish minimum margin guarantee agreements with organizers: a transparent floor price below which dynamic pricing will not push consumer prices, protecting organizer revenue predictability while enabling upside sharing through variable fee structures above the floor.

Recommendation 5: Data Infrastructure Investment

Effective FDMF implementation requires investment in three data capabilities: (1) real-time purchase velocity tracking with event-level granularity; (2) historical demand database segmented by event category, day-of-week, lead time, and cultural calendar position; and (3) customer cohort analytics for CLV measurement. These capabilities are prerequisite to Modules 1–4 and should be prioritized before pricing model changes.

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Appendix — الملاحق

Appendix A: Expert Panel Validation Questionnaire

The following questionnaire is designed to validate the Financial Decision-Making Framework (FDMF) proposed in this study. Expert panelists are requested to assess each component on a Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

Section 1: Framework Comprehensiveness

Item	Statement	1	2	3	4	5
Q1	The FDMF adequately captures the key financial drivers of revenue performance in digital ticketing.					
Q2	The four theoretical pillars (T1–T4) provide a comprehensive foundation for the framework.					
Q3	The FDMF addresses the specific characteristics of the Saudi Arabian market.					
Q4	The Islamic calendar module (T4) is essential for the framework's applicability in Saudi Arabia.					

Section 2: Practical Applicability

Item	Statement	1	2	3	4	5
Q5	The FDMF can be implemented by a digital ticketing platform within a 12–18 month timeframe.					
Q6	The group pricing module addresses a genuine behavioral gap in current Saudi ticketing practice.					
Q7	The phased implementation recommendation is appropriate for the Saudi market context.					
Q8	The FDMF's data infrastructure requirements are realistic for Saudi platform operators.					

Section 3: Research Validity

Item	Statement	1	2	3	4	5
Q9	The research hypotheses (H1–H4) are theoretically well-grounded and empirically testable.					
Q10	The secondary market evidence					

	adequately supports the H1 and H3 assessments.					
Q11	The study makes a genuine original contribution to the digital ticketing literature.					
Q12	The recommendations are actionable for platform operators in Saudi Arabia.					

Section 4: Open Feedback

Please provide any additional comments, suggested modifications to the FDMF, or additional market factors you believe the framework should incorporate:

Appendix B: Semi-Structured Interview Guide

The following questions guide the semi-structured interviews with senior operations and financial managers at Saudi digital ticketing platforms.

16. How does your platform currently set ticket prices for events? Describe your pricing process from initial price-setting through event day.
17. Do you use any form of demand forecasting? If so, what data sources and methods do you use?
18. What is the biggest challenge you face in optimizing revenue from ticket sales?
19. How does the Islamic calendar (Ramadan, Eid periods) affect your demand and pricing decisions?

20. What proportion of your ticket purchases are group/family purchases? How do you currently address group pricing?
21. Have you experimented with dynamic pricing? If so, what were the outcomes and consumer reactions?
22. What financial metrics do you currently track to assess revenue performance? Which are most important to you?
23. What is your biggest concern about implementing a systematic dynamic pricing framework?