

INNOVATION SCIENCE AND TECHNOLOGY

ISSUE 8, PART 1 / AUGUST 2026

 Acceptance of papers



**Acceptance of
papers**

Published monthly



Topics

economics,
technology, social
sciences





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THE SCIENTIFIC-POPULAR ELECTRONIC
JOURNAL **"INNOVATION SCIENCE AND
TECHNOLOGY"** HAS BEEN REGISTERED
UNDER THE NUMBER **C-5669633** BY THE
AGENCY FOR INFORMATION AND MASS
COMMUNICATIONS (AOKA) OF THE
REPUBLIC OF UZBEKISTAN, EFFECTIVE
FROM OCTOBER 9, 2024.

CONTACTS

Phone: **+998 50 737 87 88**

Website: <https://ist-journal.uz>

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The scientific electronic journal "Innovation Science and Technology" has been included in the list of scientific publications recommended for the publication of main scientific results of dissertations for the award of PhD and DSc degrees in economics and technical sciences, in accordance with the Resolution No. 370 of the Presidium of the Higher Attestation Commission of the Republic of Uzbekistan, dated May 8, 2025.

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AN ECONOMETRIC MODEL OF THE MARKETING FACTORS SHAPING DEMAND FOR HIGHER EDUCATION SERVICES (A BRAND EQUITY, SERVICE QUALITY AND REPUTATION MEDIATION APPROACH)

Egamov Sevinchbek

PhD Chief Specialist of the Accreditation and Rating Department Mamun University, Urganch

E-mail: egamovsevinchbek2106@gmail.com

ORCID: 0009-0005-7862-8679

Abstract. This article analyses the marketing factors that shape demand for higher education services through an econometric approach that models the effect of brand equity and service quality on applicants' intention to choose a higher education institution (HEI) via institutional reputation. Unlike earlier demand-function approaches, the mediation relationships between latent constructs are examined here by means of covariance-based structural equation modelling (CB-SEM) and a multinomial choice model segmented by field of study. The empirical context draws on official data of the Statistics Agency of the Republic of Uzbekistan (stat.uz), stat.edu.uz and xorazmstat.uz. From the 2024/2025 academic year the allocation of state-order quotas across individual HEIs was abolished and priority was given to engineering, medicine and the exact and natural sciences, which sharply differentiated the structure of demand by field. Drawing on the methodology of international research (the HEdPERF service quality scale and the brand equity–reputation–intention chain), the paper proposes a model specification, hypotheses and a measurement instrument adapted to national conditions.

Keywords: higher education services, demand, brand equity, service quality, HEdPERF, institutional reputation, choice intention, CB-SEM, multinomial logit, mediation effect.

Annotatsiya. Ushbu maqolada oliy ta'lim xizmatlariga talabni shakllantiruvchi marketing omillari brend kapitali va xizmat sifatining oliy ta'lim muassasasi (OTM) obro'si orqali abituriyent tanlov niyatiga ta'sirini modellashtiruvchi ekonometrik yondashuv asosida tahlil qilinadi. Avvalgi talab-funksiyasiga asoslangan yondashuvlardan farqli o'laroq, bu yerda yashirin konstruktlar o'rtasidagi vositachilik (mediation) bog'liqliklari kovariatsiyaga asoslangan strukturaviy tenglamalar modeli (CB-SEM) va yo'nalishlar bo'yicha segmentlangan multinomial tanlov modeli yordamida o'rganiladi. Empirik kontekst O'zbekiston Respublikasi Statistika agentligi (stat.uz), stat.edu.uz va xorazmstat.uz rasmiy ma'lumotlaridan olingan. 2024/2025-o'quv yilidan OTMlar kesimida kvota taqsimoti bekor qilinib, muhandislik, tibbiyot hamda aniq va tabiiy fanlarga ustuvorlik berildi; bu talab tarkibini yo'nalishlar bo'yicha keskin tabaqalashtirdi. Xalqaro tadqiqotlar metodologiyasi (HEdPERF xizmat sifati shkalasi, brend kapitali–obro'–niyat zanjiri) tahlil qilinib, milliy sharoit uchun model spetsifikatsiyasi, gipotezalar va o'lchov instrumenti taklif etiladi.

Kalit so'zlar: oliy ta'lim xizmatlari, talab, brend kapitali, xizmat sifati, HEdPERF, OTM obro'si, tanlov niyati, CB-SEM, multinomial logit, vositachilik effekti.

Аннотация. В статье на основе эконометрического подхода анализируются маркетинговые факторы, формирующие спрос на услуги высшего образования: моделируется влияние бренд-капитала и качества услуг на намерение абитуриента выбрать высшее образовательное учреждение (БОУ) через его репутацию. В отличие от прежних подходов, опирающихся на функцию спроса, здесь медиационные связи между латентными конструктами изучаются с помощью моделирования структурными уравнениями на основе ковариаций (CB-SEM) и сегментированной по направлениям мультиномиальной модели выбора. Эмпирический контекст опирается на официальные данные Агентства статистики Республики Узбекистан (stat.uz), stat.edu.uz и xorazmstat.uz. С 2024/2025 учебного года распределение квот в разрезе вузов было отменено, а приоритет отдан инженерным, медицинским, точным и естественным наукам, что резко дифференцировало структуру спроса по направлениям. Проанализирована методология международных исследований (шкала качества услуг HEdPERF, цепочка «бренд-капитал – репутация – намерение»), предложены спецификация модели, гипотезы и измерительный инструмент для национальных условий.

Ключевые слова: услуги высшего образования, спрос, бренд-капитал, качество услуг, HEdPERF, репутация вуза, намерение выбора, CB-SEM, мультиномиальный логит, эффект медиации.

INTRODUCTION

As competition in the higher education market intensifies, HEIs offer not a product but a service grounded in experience and reputation. An applicant's choice is in most cases shaped by the institution's intangible assets – brand equity, perceived service quality and overall reputation. In contemporary marketing theory these three assets are linked to one another in a causal chain: service quality and brand equity strengthen reputation, while reputation determines the consumer's choice intention. Marketing factors that shape demand must therefore be modelled not as a simple price–quantity relationship but through the mediation relationships between latent constructs.

The higher education market in Uzbekistan has expanded rapidly: by 2023 the country had 213 HEIs in operation (116 state, 67 private, 30 foreign) and the enrolment rate reached 42 per cent. At the same time two important changes took place on the demand side. First, the number of applicants who submitted documents fell from 894,279 in 2024 to 732,411 in the 2025/2026 season (by 18.1 per cent). Second, pursuant to Presidential Decree No. PF-81 of 24 May 2024, from the 2024/2025 academic year the allocation of state-order quotas across individual HEIs was abolished and priority was given to engineering, medicine and the exact and natural sciences. As a result, demand became sharply differentiated by field of study: medicine remained the most competitive field, while demand for information technology, artificial intelligence and cybersecurity rose steeply.

The relevance of the topic arises from the intersection of these two processes: with supply expanding and domestic demand contracting, competition among HEIs is shifting away from price towards the field of reputation and quality. In such conditions a quantitative model of the factors that shape demand is needed in order to justify where marketing resources should be concentrated.

The aim of the study is to model econometrically the effect of brand equity, service quality and reputation on applicants' choice intention, together with the mediation effects, and to analyse the differentiation of demand by field of study. The research questions are: (a) to what extent do service quality and brand equity influence choice intention through reputation? (b) how strong is the mediating role of reputation in this influence? (c) how does demand differ by field of study and by HEI type (state/private/foreign)?

LITERATURE REVIEW

Higher education marketing took shape as an independent line of research in the 2000s. The systematic review carried out by Hemsley-Brown and Oplatka (2006) established that higher education should be regarded not as a product but as a service, and that HEI marketing has therefore borrowed its conceptual frameworks from services marketing. The authors identified the main weakness of the field as the fragmentation of empirical models and the failure to link choice factors into a coherent theoretical chain – a shortcoming that has not yet been fully overcome.

The foundations of brand equity theory were laid by Aaker (1991), who described the value of a brand through the dimensions of brand awareness, perceived quality, brand associations and loyalty. Keller (1993) advanced the concept of customer-based brand equity, showing that the value of a brand arises through the knowledge structure in the consumer's mind; Keller (2013) then developed this approach within a system of strategic brand management. In the higher education context, brand equity is manifested through an HEI's name, history, alumni network and academic standing.

The methodology for measuring service quality begins with the SERVQUAL scale proposed by Parasuraman, Zeithaml and Berry (1988). Because this general scale could not fully capture the specific features of the education sector, Abdullah (2006) developed the HEDPERF (Higher Education PERFORMANCE) instrument specifically for higher education: in it, academic aspects, non-academic aspects, reputation, access and programme issues are distinguished as separate dimensions. HEDPERF has since been validated repeatedly in different countries and is today regarded as one of the most widely used instruments for measuring HEI service quality.

The effect of reputation on demand was confirmed empirically in the work of Nguyen and LeBlanc (2001): the authors found that the image and reputation of an institution have a direct effect on a student's decision to remain at the HEI. Contemporary research, however, interprets reputation not as an independent factor but as a mediator. Rizard, Waluyo and Jaswir (2023), using the case of IIUM and UIN (n=228), showed that brand equity and service quality affect choice intention not directly but mainly by strengthening the reputation of the HEI. The classic methodological basis for assessing such mediation relationships is set out in the work of Baron and Kenny (1986), which is now applied in combination with the bootstrap method.

Covariance-based structural equation modelling is used to estimate such a multi-stage chain among latent constructs; its measurement, reliability and fit criteria were systematised by Hair et al. (2019). Overall, the literature review points to the following research gap: although the brand equity–service quality–reputation–

choice intention chain is well grounded internationally, it has not been tested empirically in the conditions of Uzbekistan, and in particular of the HEIs of the Khorezm region, nor has it been studied in connection with the differentiation of demand by field of study. The present article is aimed at filling this gap.

RESEARCH METHODOLOGY (THE CB-SEM AND MULTINOMIAL LOGIT MODEL).

The study drew on the methods of observation, data collection and generalisation, comparative analysis, examination of the scholarly views of domestic and foreign researchers on higher education marketing, processing of official statistical data and econometric modelling. Covariance-based structural equation modelling (CB-SEM) and a segmented multinomial logit model were selected as the principal econometric apparatus.

Data base

Macro-level contextual data were taken from the official publications of the Statistics Agency of the Republic of Uzbekistan (stat.uz), the Ministry of Higher Education, Science and Innovation (stat.edu.uz) and the regional statistical offices (xorazmstat.uz): the numbers of applicants and students, the number of HEIs, admission policy and contract tuition fees (Table 1). At the micro level, a primary survey methodology was developed to measure the constructs of brand equity, service quality, reputation and choice intention.

Conceptual model and hypotheses

On the basis of the theoretical foundation set out above, the following hypotheses are advanced:

H1: Brand equity has a positive effect on HEI reputation.

H2: Service quality (HEdPERF) has a positive effect on HEI reputation.

H3: HEI reputation has a positive effect on applicants' choice intention.

H4: Reputation mediates the relationship between brand equity and choice intention (mediation).

H5: Reputation mediates the relationship between service quality and choice intention.

H6: Price perception (contract tuition fee) has a negative but moderating effect on choice intention.

Econometric specification

(A) The measurement model. Each latent construct (ξ) is reflected through its indicators (x): $x = \Lambda \cdot \xi + \delta$, where Λ – the matrix of loadings, δ – the measurement error. Convergent validity is assessed by the criteria AVE > 0.5, reliability CR > 0.7 and Cronbach's α > 0.7.

(B) The structural model. The causal relationships between the latent constructs are expressed as follows:

$$REP = \gamma_1 \cdot BE + \gamma_2 \cdot SQ + \zeta_1 \quad (1)$$

$$INT = \beta_1 \cdot REP + \beta_2 \cdot BE + \beta_3 \cdot SQ + \beta_4 \cdot PR + \zeta_2 \quad (2)$$

where BE is brand equity; SQ is service quality; REP is reputation; INT is choice intention; PR is price perception. The mediation effect is estimated as the indirect effect ($\gamma_1 \cdot \beta_1$, $\gamma_2 \cdot \beta_1$) by means of the bootstrap procedure (5,000 resamples). The model is estimated by CB-SEM (AMOS) and checked against the fit indices (CFI > 0.90; RMSEA < 0.08; SRMR < 0.08).

(C) The choice model by segment. The choice of HEI type (state / private / foreign) is estimated by means of a multinomial logit:

$$P(\text{type} = j) = \exp(\alpha_j + \sum \theta_{jk} \cdot Z_k) / \sum_m \exp(\cdot) \quad (3)$$

where Z denotes the explanatory factors (brand, quality, price, entrance score, region, family income). This model gives a quantitative account of the differentiation of demand by field of study and by HEI type.

Measurement and sample

The constructs are measured on a seven-point Likert scale: BE – the brand equity items of Aaker; SQ – an adapted version of the 41-item HEdPERF scale (academic, non-academic, reputation, access, programme); REP and INT – the corresponding validated scales. Following the rule of 5–10 observations per indicator, the sample size amounts to at least 250–400 applicants or first-year students. Discriminant validity is checked by the Fornell–Larcker and HTMT criteria.

ANALYSIS AND RESULTS

Market conditions and the differentiation of demand

Table 1 presents the official indicators that describe the demand environment and its differentiation by field of study and by HEI type (table 1).

Table 1. Indicators describing the higher education market and the differentiation of demand

Indicator	Value	Period / source
Applicants who submitted documents	894,279 → 732,411 (-18.1%)	2024 → 2025/26
HEIs (state / private / foreign)	213 (116 / 67 / 30)	2023
Change in quota policy (PF-81)	Quotas by HEI abolished; engineering/medicine prioritised	2024/25
Most competitive field	Medicine (grant cut-off ~130–160 points)	2024/25
Fields with sharply increased demand	IT, artificial intelligence, cybersecurity	2024/25
Bachelor's state order	34,838 (master's – 9,365)	2024/25
Contract tuition fee (bachelor's)	7,400 – 11,250 thousand UZS	2024/25
Foreign students (international demand)	5.0 → 12.5 thousand (×2.5)	2022/23 → 2024/25

The data show that demand is not homogeneous but sharply differentiated by field of study and by HEI type: although the total number of applicants has fallen (-18.1%), demand for medicine and IT remains high, while international demand has grown 2.5-fold. This creates the need to build marketing strategy in a segmented way – separately for each field of study and each type of institution.

The conceptual model: expected path coefficients

Table 2 presents the expected standardised path coefficients of the model on the basis of the ranges reported in international empirical research (table 2).

Table 2. Hypotheses of the structural model and expected path coefficients (β)

Hyp.	Relationship	Expected β (range)	Source
H1	Brand equity → Reputation	+0.35 ... +0.55	Rizard et al. (2023)
H2	Service quality → Reputation	+0.40 ... +0.60	Rizard et al. (2023); Abdullah (2006)
H3	Reputation → Choice intention	+0.35 ... +0.50	Nguyen and LeBlanc (2001)
H4	BE → Reputation → Intention (indirect)	+0.15 ... +0.25	Rizard et al. (2023)
H5	SQ → Reputation → Intention (indirect)	+0.18 ... +0.30	Rizard et al. (2023); Abdullah (2006)
H6	Price perception → Intention	-0.10 ... -0.25	Hemsley-Brown and Oplatka (2006)

The expected results show that reputation is the central mediator: a considerable part – roughly half – of the total effect of brand equity and service quality on choice intention is realised indirectly through reputation. For HEIs this means that it is expedient to direct marketing investment first of all towards strengthening reputation (accreditation, graduate employment, rankings, research output).

Price sensitivity by HEI type and segmentation

Within the framework of multinomial model (3), price sensitivity in the choice of HEI type is expected to differ across segments (Table 3).

Table 3. Demand segments by HEI type and marketing priorities

HEI type	Main driver	Price sensitivity	Marketing priority
State	Grant, reputation, employment	Medium	Reputation + programme quality
Private	Convenience, service, brand	High	Brand + digital marketing
Foreign	International degree, language	Low	Reputation + international recognition

The results underline the key mediating role of reputation in shaping demand for higher education. International research shows that, while brand equity and service quality strengthen the reputation of an HEI, it is reputation itself that determines applicants' choice intention; satisfaction and trust have likewise been confirmed as mediators in the service quality → brand image → behavioural intention chain. The HEDPERF scale, for its part, has been validated repeatedly as an effective instrument for measuring the academic and non-academic aspects of service quality.

In the conditions of Uzbekistan, the PF-81 reform and the differentiation of demand by field of study require a change in the marketing approach: instead of a single, generalised promotion, a segmented strategy is needed. In high-demand fields such as medicine, competition proceeds in terms of quality and reputation, whereas in IT it proceeds in terms of the modernity of the programme and employment prospects. Since private HEIs operate in a segment with high price sensitivity, they should emphasise brand and digital marketing, while

foreign HEIs should emphasise international recognition and language.

The overall decline in the number of applicants (–18.1%) has accelerated the shift to a “buyer’s market”: where supply has increased and domestic demand has contracted, HEIs that possess reputation gain the advantage. This shows that managing reputation as a long-term asset – through quality education, a strong alumni network and transparent results – is the most effective method of marketing.

Limitations of the study

The path coefficients of the model require primary survey data; the article proposes a validated specification, hypotheses and instrument. The values in Tables 2 and 3 are expectations based on the international literature and the logic of the model, and they must be confirmed empirically on a national sample. In future research it is recommended to test invariance by gender, region and HEI type through multi-group SEM analysis and to carry out a discrete choice experiment.

CONCLUSIONS AND RECOMMENDATIONS

The study has developed an econometric model (CB-SEM and a segmented multinomial logit) of the marketing factors that shape demand for higher education services, based on the brand equity–service quality–reputation–choice intention chain, and has grounded it in the official statistics of Uzbekistan. The model identifies reputation as the central mediator: a considerable part of the effect of brand equity and service quality on choice intention is realised through reputation. The official data show that demand is sharply differentiated by field of study and by HEI type, confirming the need for a segmented marketing strategy.

Practical recommendations:

- to direct marketing investment first of all towards strengthening reputation (accreditation, graduate employment, rankings, research output);
- to segment demand by field of study and by HEI type and to formulate a separate value proposition and channel strategy for each segment;
- to measure service quality regularly on the basis of HEDPERF and to improve the weaker dimensions (access, programme, non-academic service);
- to monitor brand equity and reputation indicators through survey monitoring and to base marketing decisions on SEM analysis.

References:

1. Aaker, D. A. Managing Brand Equity: Capitalizing on the Value of a Brand Name / D. A. Aaker. – New York : The Free Press, 1991.
2. Abdullah, F. The development of HEDPERF: a new measuring instrument of service quality for the higher education sector / F. Abdullah // International Journal of Consumer Studies. – 2006. – Vol. 30, no. 6. – P. 569–581.
3. Baron, R. M. The moderator–mediator variable distinction in social psychological research / R. M. Baron, D. A. Kenny // Journal of Personality and Social Psychology. – 1986. – Vol. 51, no. 6. – P. 1173–1182.
4. Hair, J. F. Multivariate Data Analysis / J. F. Hair, W. C. Black, B. J. Babin, R. E. Anderson. – 8th ed. – Andover : Cengage Learning, 2019.
5. Hemsley-Brown, J. Universities in a competitive global marketplace: A systematic review of the literature on higher education marketing / J. Hemsley-Brown, I. Oplatka // International Journal of Public Sector Management. – 2006. – Vol. 19, no. 4. – P. 316–338. DOI: 10.1108/09513550610669176.
6. Keller, K. L. Conceptualizing, Measuring, and Managing Customer-Based Brand Equity / K. L. Keller // Journal of Marketing. – 1993. – Vol. 57, no. 1. – P. 1–22.
7. Keller, K. L. Strategic Brand Management: Building, Measuring, and Managing Brand Equity / K. L. Keller. – 4th ed. – Harlow : Pearson Education, 2013.
8. Nguyen, N. Image and reputation of higher education institutions in students' retention decisions / N. Nguyen, G. LeBlanc // International Journal of Educational Management. – 2001. – Vol. 15, no. 6. – P. 303–311.
9. Parasuraman, A. SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality / A. Parasuraman, V. A. Zeithaml, L. L. Berry // Journal of Retailing. – 1988. – Vol. 64, no. 1. – P. 12–40.
10. Rizard, S. R. Impact of brand equity and service quality on the reputation of universities and students' intention to choose them: The case of IIUM and UIN / S. R. Rizard, B. Waluyo, I. Jaswir // F1000Research. – 2023. – Vol. 11:1412. DOI: 10.12688/f1000research.122386.3.
11. O'zbekiston Respublikasi Prezidentining 2024-yil 24-maydagi PF-81-son Farmoni. – URL: <https://lex.uz>
12. O'zbekiston Respublikasi Prezidenti huzuridagi Statistika agentligi. Oliy ta'lim bozori ko'rsatkichlari. – URL: <https://stat.uz>
13. Oliy ta'lim, fan va innovatsiyalar vazirligi. OTMLar, davlat buyurtmasi va kontrakt to'lovlari bo'yicha ma'lumotlar. – URL: <https://stat.edu.uz>
14. UNESCO Institute for Statistics (UIS). Tertiary education data: Uzbekistan. – URL: <https://uis.unesco.org>
15. World Bank. Education Statistics: Uzbekistan. – URL: <https://data.worldbank.org>

Proofreader: Zokir ALIBEKOV

Layout and Designer: Oloviddin Sobir ugli

2026. № 8

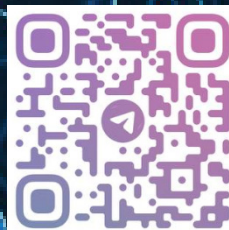
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