

# Revitalization of Oman's Tourism Destinations through the Omani Youth's Level of Engagement and Satisfaction with Technological Innovations

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## Abstract

**Purpose:** The aim of the study was to identify and describe the key technological innovations adopted within tourism destinations in Oman and understand the perceptions of Omani youth toward these innovations; to evaluate how technological advancements contribute to increasing youth engagement with tourism destinations across Oman and to analyze the relationship between youth satisfaction with technological tools and their engagement with tourism attractions, and to propose targeted strategies for enhancing technological experiences in the tourism sector.

**Design/methodology/approach:** Primary data was collected through a self-designed questionnaire distributed to a sample of 100 Omani youth aged 18–30 using the snowball sampling technique. The questionnaire includes demographic questions, Likert-scale items, ranking questions, and open-ended questions to capture both quantitative measures of engagement and satisfaction and qualitative insights on challenges and opportunities in tourism technology. The collected data were analyzed in SPSS using descriptive statistics to summarize demographic information and participants' responses, and regression analysis to explore the relationship between engagement levels and satisfaction with technological innovations.

**Findings:** The study reveals that technological innovations significantly influence tourism promotion and youth engagement in Oman. Robotics, Virtual Reality, and the Metaverse show strong potential in attracting tourists, while technologies such as AI, Smart Cities, and IoT enhance satisfaction and engagement. Omani youth believe that advanced technologies are essential for Oman's tourism competitiveness, and higher education levels are associated with improved satisfaction and involvement in revitalizing tourism destinations.

**Research Implications:** The findings emphasize the growing relevance of advanced digital technologies in tourism innovation research. The study provides empirical evidence on how technology acceptance and youth engagement together contribute to sustainable tourism development. These insights enrich the theoretical understanding of technology-driven destination promotion and support future scholarly work exploring digital transformation, user perception, and innovation adoption in emerging tourism markets like Oman.

**Social Implications:** The study highlights the critical role of Omani youth as digital ambassadors in promoting national tourism. Enhancing technological usability can foster greater community participation, improve tourist experiences, and strengthen national identity. By investing in digital skills and inclusive smart tourism initiatives, Oman can empower its youth, ensure increased employment opportunities, and drive socio-economic revitalization aligned with Vision 2040's diversification goals.

**Originality / Value:** This study is among the first to empirically link technological innovation acceptance with youth engagement in revitalizing tourism in Oman. By examining multiple emerging technologies simultaneously—Robotics, Metaverse, VR/AR, AI, IoT, and Smart Cities—it offers a unique multidimensional framework. The research contributes new insights relevant to digital tourism strategies in developing economies and informs policymakers on leveraging youth-led technological transformation.

**Keywords:** Smart Tourism, Emerging Technologies, Youth Engagement, Technological Innovation Adoption, Destination Competitiveness, Digital Transformation in Tourism.

JEL: Z32, O33, L83, M31, D83, Q01.

## Introduction

### *Background of Technology and Tourism in Oman*

The Sultanate of Oman is increasingly positioning tourism as a major contributor to its economic diversification agenda, in alignment with Oman Vision 2040, which highlights the tourism sector as a pathway to sustainable economic growth and cultural preservation ([Omanuna, 2020](#)). As global travel preferences shift toward more interactive and digitally enhanced experiences, the integration of technology into tourism has become a critical factor for competitiveness and visitor satisfaction ([Crisostomo, 2024](#); [Ramlavat, 2023](#)).

Technological innovations such as artificial intelligence, virtual and augmented reality, smart applications, and robotics are transforming how travelers explore information, interact with destinations, and evaluate their experiences ([Arena et al., 2022](#); [Gretzel et al., 2015](#); [Guttentag, 2010](#); [Ivanov & Webster, 2019](#); [Kim & Kim, 2017](#)). These tools provide opportunities for personalized services, improved accessibility, and immersive engagement, making them valuable assets for enhancing tourism offerings in Oman.

Omani youth represent a key demographic in this transformation, as they are among the most active users of digital platforms and emerging technologies. Their engagement is essential not only as current consumers but also as future contributors to innovation and workforce development in tourism ([UNEP & UN Tourism, 2005](#)). Understanding how technological features influence their satisfaction with local tourism attractions is therefore vital for designing experiences that resonate with evolving expectations.

While the adoption of digital technologies in tourism provides significant benefits, it also brings challenges, including high implementation costs, capability gaps, and concerns over cultural integration into modern platforms ([Ilieva et al., 2023](#)). To ensure successful modernization, it is important to assess how youth perceive existing technologies within Oman's tourism environment and how these innovations can be optimized.

Thus, this study aims to explore the relationship between technological advancements, youth engagement, and satisfaction in Oman's tourism destinations. By identifying the level of youth involvement, evaluating their satisfaction with current technological experiences, and examining both opportunities and barriers, the research intends to provide recommendations that support the revitalization of tourism destinations and strengthen Oman's competitiveness in the digital tourism era.

### **Statement of the Problem**

The tourism sector in Oman is undergoing a significant transformation as the country works toward modernizing its attractions and improving competitiveness in line with global tourism trends. Technological innovations such as augmented reality, virtual reality, smart applications, and artificial intelligence are increasingly recognized as essential tools for enhancing visitor experiences and advancing destination appeal. However, in Oman, the integration of such technologies across tourism destinations remains limited and inconsistent, creating a gap between modernization efforts and the evolving expectations of young travelers.

Omani youth represent a digitally skilled and highly influential demographic whose preferences can shape the future direction of the tourism industry. Despite their familiarity and engagement with emerging technologies in everyday life, it is unclear whether the technological features currently available at tourism sites in Oman are sufficiently engaging and satisfying for this group. There is also a lack of empirical evidence regarding how these innovations influence youth perceptions, motivation to visit local attractions, and willingness to revisit or recommend destinations.

Furthermore, while technology has the potential to strengthen tourism performance and align with national goals for diversification, the challenges and barriers affecting implementation and user acceptance have not been thoroughly examined. Without a clear understanding of youth engagement levels, satisfaction outcomes, and the constraints faced by tourism stakeholders, efforts to revitalize destinations through technological innovation may fall short of achieving their intended impact.

Therefore, this study seeks to address the existing knowledge gap by assessing the engagement and satisfaction of Omani youth with technological innovations in local tourism destinations, and by identifying how these digital enhancements can be more effectively utilized to support the sustainable growth of Oman's tourism industry.

### **Rationale of the study**

The rapid adoption of digital tools in global tourism has created new expectations among young travelers. In Oman, technological innovations such as AR, VR, Smart Cities, and AI are emerging but remain underutilized in enhancing tourist experiences. Therefore, understanding how these innovations influence youth engagement and destination attractiveness is essential to sustain competitiveness and drive future tourism growth.

### **Research Questions**

1. What forms of technological innovation are currently applied in Oman's tourism destinations, and how are they perceived by Omani youth?
2. In what ways do technological innovations influence the engagement level of Omani youth with local tourism attractions?
3. How does satisfaction with technological features at tourism sites relate to the overall engagement of Omani youth, and what improvements can further enhance their involvement?

### **Research Objectives**

1. To identify and describe the key technological innovations adopted within tourism destinations in Oman and understand the perceptions of Omani youth toward these innovations.
2. To evaluate how technological advancements contribute to increasing youth engagement with tourism destinations across Oman.
3. To analyze the relationship between youth satisfaction with technological tools and their engagement with tourism attractions, and to propose targeted strategies for enhancing technological experiences in the tourism sector.

### **Review of Literature**

Tourism is increasingly recognized as a key driver of Oman's economic diversification strategy, contributing to GDP, cultural preservation, and international visibility. With evolving traveler expectations and intensified competition from neighboring destinations, there is a growing emphasis on innovative and technology-enhanced tourism experiences ([Travel Trade Ready](#), 2023; [Waheeb](#), 2017). Although technologies such as virtual reality, digital platforms, and AI can significantly elevate tourist engagement, scholarly attention toward the role of Omani youth in adopting and promoting these innovations remains limited.

#### ***Youth Engagement and Tourism Modernization***

Youth represent a substantial portion of Oman's population, with those aged 18–29 accounting for approximately 18% ([Al Kaabi](#), 2023). Being digitally proficient, this group holds potential to influence tourism transformation through technological participation. Their involvement not only supports modernization but also contributes to preserving cultural identity and increasing destination competitiveness. However, literature has not sufficiently explored how sociocultural factors among Omani youth shape their engagement or how their participation may enhance tourism satisfaction and long-term sustainability.

#### ***Understanding Engagement in Tourism Contexts***

Engagement is broadly described as a multidimensional construct encompassing interactivity, attention, and emotional involvement ([O'Brien & Toms](#), 2008; [Lehmann et al.](#), 2012). In tourism, it is associated with immersive interactions between visitors and destinations, contributing to positive emotions, identification, and enhanced experience quality ([Rasoolmanesh et al.](#), 2019; [Ray et al.](#), 2014). Active youth involvement in guiding, content creation, digital storytelling, and cultural demonstrations has been shown to elevate tourist engagement, strengthen visitor attachment, and increase destination loyalty ([Brodie et al.](#), 2011; [Seyfi et al.](#), 2021; [Zhou & Yu](#), 2022).

Theoretical perspectives, such as involvement theory, suggest that technology-led engagement can stimulate both short-term and sustained behavioral responses ([Houston & Rothschild](#), 1978). Digital interaction models similarly highlight that well-designed platforms, data presentation, and sensory elements significantly enhance user immersion ([Saffer](#), 2010; [Shneiderman](#), 1997).

#### ***Satisfaction and Technology-Driven Tourist Experiences***

Satisfaction is defined as an affective and cognitive evaluation of whether experiences meet expectations ([Oliver](#), 1981; [Westbrook & Reilly](#), 1983). Technology plays a role in shaping satisfaction through convenience, personalization, and access to interactive experiences ([Srinivasan et al.](#), 2024; [Susthacha et al.](#), 2023). For Oman, youth-led digital innovations—such as AR cultural displays or virtual destination previews—can enhance the perceived value of attractions and motivate repeat visits.

Expectancy-disconfirmation theory underscores the significance of performance exceeding perceptions (Oliver, 1997; Weber, 1997), while SERVQUAL highlights reliability and responsiveness in shaping user satisfaction (Parasuraman et al., 1988). Through digital media and content creation, Omani youth can amplify tourist satisfaction and boost word-of-mouth promotion, especially across social platforms (Zhou & Yu, 2022).

#### ***Youth Empowerment and Smart Tourism Advancement***

Youth empowerment through tourism innovation can stimulate entrepreneurship, employment, and skill development (Times News Service, 2024). Opportunities in app development, VR content creation, and digital marketing enable youth to contribute to economic diversification while promoting heritage in a modern format (Boes et al., 2016; Harrison & Donnelly, 2011). Thus, equipping youth with technological skills supports Oman's vision for smart and sustainable tourism growth.

#### ***Sustainability Through Technological Innovation***

Technological solutions contribute to sustainable resource management through smart monitoring, improved waste processes, and environmental protection (Gretzel et al., 2015; UNEP and UN Tourism, 2005). These innovations reinforce the balance between economic development and ecological preservation — prioritizing long-term destination resilience.

#### ***Challenges Hindering Adoption***

Despite the opportunities, several barriers persist:

- *Digital Skill Gaps* – Rural youth may lack access and training to fully utilize advanced technologies (Al Zidjaly, 2024).
- *Financial Constraints* – Implementation of technology-based tourism projects requires substantial investment, and funding remains limited (Oman Daily Observer, 2024; Belgacem, 2025).
- *Cultural Resistance* – Preference for traditional practices and uncertainty about economic returns may hinder acceptance of technological change (Sigala & Gretzel, 2017).

#### ***Research Gap***

Existing studies increasingly highlight the role of technological innovations—such as virtual reality, mobile applications, and digital platforms—in enhancing visitor experiences and strengthening destination competitiveness. However, much of this research has primarily focused on tourists in general or on international markets, with limited attention given to local community engagement. Specifically, there remains a lack of empirical evidence on how Omani youth, who form a significant portion of the national population and are active users of technology, perceive and interact with technological initiatives in tourism destinations. Moreover, prior literature has insufficiently examined the relationship between youth engagement with these technologies and their resulting satisfaction with tourism experiences in Oman. This gap makes it difficult for tourism stakeholders to design youth-driven strategies that support destination revitalization. Therefore, this study aims to bridge these gaps by assessing the engagement and satisfaction levels of Omani youth toward technological innovations, and their potential role in enhancing the sustainability and attractiveness of tourism destinations in Oman.

#### ***Research Methodology***

This study adopted a quantitative research approach to examine the engagement of Omani youth with technological innovations in tourism destinations and their overall satisfaction. A descriptive research design was employed to provide a detailed understanding of participants' behaviors, perceptions, and experiences. Secondary data was gathered from academic journals, books, and credible online sources to establish the theoretical framework and identify gaps in existing literature. Primary data was collected through a self-designed questionnaire distributed to a sample of 100 Omani youth aged 18–30 in the Muscat region, using the snowball sampling technique to ensure diverse and relevant responses. The questionnaire included demographic questions, Likert-scale items, ranking questions, and open-ended questions to capture both quantitative measures of engagement and satisfaction and qualitative insights on challenges and opportunities in tourism technology. The collected data were analyzed using descriptive statistics through SPSS to summarize demographic information and participants' responses, and regression analysis to explore the relationship between engagement levels and satisfaction with technological innovations. This combination of quantitative analysis allows for a robust understanding of how technological innovations influence youth engagement and satisfaction in Oman's tourism sector, providing credible evidence to support practical recommendations for enhancing tourism experiences.

**Table 1. Demographic Table**

| Category                                                                       | Subcategory    | Frequency | %    |
|--------------------------------------------------------------------------------|----------------|-----------|------|
| Gender                                                                         | Female         | 47        | 47.0 |
|                                                                                | Male           | 53        | 53.0 |
| Age                                                                            | Below 18       | 23        | 23.0 |
|                                                                                | 18 to below 23 | 59        | 59.0 |
|                                                                                | 23 to 30       | 18        | 18.0 |
| Education                                                                      | Bachelors      | 60        | 60.0 |
|                                                                                | Masters        | 5         | 5.0  |
|                                                                                | Diploma (GED)  | 34        | 34.0 |
|                                                                                | Doctorate      | 1         | 1.0  |
| Employment                                                                     | Unemployed     | 58        | 58.0 |
|                                                                                | Employed       | 27        | 27.0 |
|                                                                                | Self-employed  | 15        | 15.0 |
| How often do you visit Tourism Destinations in Oman                            | Never          | 3         | 3.0  |
|                                                                                | Rarely         | 32        | 32.0 |
|                                                                                | Occasionally   | 41        | 41.0 |
|                                                                                | Frequently     | 24        | 24.0 |
| How often do you use digital tools to experience tourism in Omani destinations | Never          | 15        | 15.0 |
|                                                                                | Rarely         | 30        | 30.0 |
|                                                                                | Occasionally   | 34        | 34.0 |
|                                                                                | Frequently     | 21        | 21.0 |
| Familiarity using Tech. Innovations                                            | Unfamiliar     | 20        | 20.0 |
|                                                                                | Neutral        | 40        | 40.0 |
|                                                                                | Familiar       | 40        | 40.0 |

Source: Questionnaire

**Table 2. Technological Innovations in Promoting Oman's Tourism Destinations**

|                                                                                                                                         | SD      | D         | N         | A         | SA        | K.S. value | $\chi^2$ | P value |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|-----------|-----------|-----------|------------|----------|---------|
| Omani youth play a vital role in promoting tourism in Oman through the use of technology (Digital platforms, mobile applications, etc.) | 1<br>1% | 0<br>0%   | 11<br>11% | 46<br>46% | 42<br>42% | .265       | 40.000   | .000    |
| I have used technological tools to promote Oman's tourist destinations                                                                  | 5<br>5% | 16<br>16% | 17<br>17% | 38<br>38% | 24<br>24% | .255       |          |         |
| Tech. Innovations & AR can attract more tourists to Oman                                                                                | 1<br>1% | 0<br>0%   | 11<br>11% | 46<br>46% | 42<br>42% | .255       |          |         |
| The tourism sector in Oman needs more tech. innovations to stay competitive                                                             | 1<br>1% | 0<br>0%   | 7<br>7%   | 40<br>40% | 52<br>52% | .312       |          |         |

The null hypothesis stated that there is no significant relationship between technological innovations in promoting Oman's tourism destinations and the choices of the respondents. Since the p-value is less than 0.05, the null hypothesis is rejected, indicating a statistically significant relationship. Based on the Kolmogorov–Smirnov (K–S) test values, the statement *‘The tourism sector in Oman needs more technological innovations to stay competitive’* ranked highest (K–S = .312). This was followed by *‘Omani youth play a vital role in promoting tourism in Oman through the use of technology’* (K–S = .265). Meanwhile, *‘I have used technological tools to promote Oman's tourist destinations’* and *‘Technological innovations and augmented reality can attract more tourists to Oman’* jointly ranked third (K–S = .255).

**Table 3. Level of Engagement in Revitalizing Oman**

|                         | N.E. | S.E. | F.E. | E. | H.E. | K.S. value | $\chi^2$ | P value |
|-------------------------|------|------|------|----|------|------------|----------|---------|
| Virtual Reality         | 17   | 8    | 20   | 21 | 34   | .193       | 49.580   | .004    |
| Augmented Reality       | 14   | 12   | 21   | 33 | 20   | .225       |          |         |
| Artificial Intelligence | 6    | 5    | 17   | 37 | 35   | .255       |          |         |
| Internet of Things      | 8    | 10   | 23   | 36 | 23   | .235       |          |         |
| Robotics                | 19   | 11   | 31   | 29 | 10   | .200       |          |         |
| Metaverse               | 31   | 10   | 32   | 20 | 7    | .205       |          |         |
| Smart Cities            | 8    | 4    | 17   | 35 | 36   | .254       |          |         |
| Sustainable Technology  | 12   | 3    | 28   | 35 | 22   | .223       |          |         |

NE = Not engaged, SE = Slightly Engaged, FE = Fairly Engaged, E = Engaged, HE = Highly Engaged

The null hypothesis posited that there is no significant relationship between the level of engagement in revitalizing Oman's tourism destinations and the respondents' choices. As the p-value is less than 0.05, the null hypothesis is rejected, confirming a statistically significant relationship. Based on the Kolmogorov–Smirnov (K–S) test results, *Artificial Intelligence* showed the strongest influence (K–S = .255), followed closely by *Smart Cities* (K–S = .255), *Internet of Things* (K–S = .235), and *Augmented Reality* (K–S = .225). *Sustainable Technology* ranked fifth (K–S = .223), while the *Metaverse* recorded the lowest influence among the listed innovations (K–S = .205).

**Table 4. Level of Satisfaction with usability & effectiveness of tech. Innovations**

|                         | H.D. | D. | N. | S. | H.S. | K.S. value | $\chi^2$ | P value |
|-------------------------|------|----|----|----|------|------------|----------|---------|
| Virtual Reality         | 4    | 12 | 32 | 22 | 30   | .185       | 37.540   | .021    |
| Augmented Reality       | 4    | 8  | 30 | 34 | 24   | .206       |          |         |
| Artificial Intelligence | 4    | 4  | 26 | 31 | 35   | .202       |          |         |
| Internet of Things      | 1    | 4  | 30 | 36 | 29   | .202       |          |         |
| Robotics                | 5    | 9  | 46 | 27 | 13   | .235       |          |         |
| Metaverse               | 7    | 8  | 54 | 25 | 6    | .285       |          |         |
| Smart Cities            | 3    | 11 | 19 | 32 | 35   | .224       |          |         |
| Sustainable Technology  | 3    | 9  | 34 | 38 | 16   | .219       |          |         |

H.D. = Highly Dissatisfied, D = Dissatisfied, N = Neutral, S = Satisfied, H.S. = Highly Satisfied

The null hypothesis stated that there is no significant relationship between the level of satisfaction with the usability and effectiveness of technological innovations and the engagement of Omani youth in revitalizing tourism destinations. As the p-value obtained is less than 0.05, the null hypothesis is rejected, indicating a statistically significant relationship. Furthermore, based on the Kolmogorov–Smirnov (K–S) test results, *Metaverse* demonstrated the highest influence (K–S = .285), followed by *Robotics* (K–S = .235), *Smart Cities* (K–S = .224), and *Sustainable Technology* (K–S = .219). *Augmented Reality* ranked fifth (K–S = .206), while *Artificial Intelligence* and *Internet of Things* shared the sixth position (K–S = .205).

**Table 5. Ranking of the Potentials of Technological Innovations in Attracting Tourists to Oman**

|              | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | Mean Score | Rank |
|--------------|----|----|----|----|----|----|----|----|------------|------|
| AI           | 28 | 18 | 10 | 14 | 16 | 6  | 5  | 3  | 0.0903     | 8    |
| AR           | 6  | 13 | 9  | 17 | 15 | 20 | 14 | 6  | 0.1300     | 4    |
| IOT          | 13 | 13 | 20 | 11 | 14 | 15 | 9  | 5  | 0.1128     | 6    |
| Metaverse    | 5  | 7  | 24 | 10 | 11 | 7  | 15 | 21 | 0.1392     | 3    |
| Robotics     | 5  | 6  | 8  | 14 | 11 | 18 | 18 | 20 | 0.1517     | 1    |
| Smart Cities | 25 | 14 | 10 | 10 | 13 | 13 | 7  | 8  | 0.1053     | 7    |
| ST           | 15 | 18 | 7  | 11 | 7  | 9  | 15 | 18 | 0.1261     | 5    |
| VR           | 3  | 11 | 12 | 13 | 13 | 12 | 17 | 19 | 0.1447     | 2    |

Based on the mean score rankings provided by respondents regarding the potential of technological innovations to attract tourists to Oman, *Robotics* emerged as the highest-ranked innovation ( $M = 0.1517$ ), followed by *Virtual Reality* in second place ( $M = 0.1392$ ) and the *Metaverse* in third ( $M = 0.1300$ ). *Augmented Reality* ranked fourth ( $M = 0.1261$ ), while *Smart Cities* and the *Internet of Things* followed in fifth ( $M = 0.1261$ ) and sixth place, respectively.

## Correlation

**Table 6. Correlation**

|    |                     | Rv    | Sa    |
|----|---------------------|-------|-------|
| Rv | Pearson Correlation | 1     | .632* |
|    | Sig. (2-tailed)     |       | .000  |
|    | N                   | 100   | 100   |
| Sa | Pearson Correlation | .632* | 1     |
|    | Sig. (2-tailed)     | .000  |       |
|    | N                   | 100   | 100   |

Rv – Omani youths' overall Engagement in Revitalizing Oman

Sa – Overall satisfaction with usability & effectiveness of tech. Innovations

\* Correlation is significant at the 0.01 level (2-tailed)

The correlation analysis between Omani youths' overall engagement in revitalizing tourism in Oman and their overall satisfaction with the usability and effectiveness of technological innovations revealed a statistically significant relationship ( $p = .000$ ). This indicates that the observed association is highly unlikely to have occurred by chance. The positive correlation suggests that higher satisfaction with technological innovations corresponds to increased engagement levels among Omani youth. This finding reinforces the importance of enhancing the usability and effectiveness of tourism-related technologies, as doing so can meaningfully strengthen youth involvement and contribute to improved visitor experiences and revitalization of Oman's tourism destinations.

**Table 7. (a), (b), (c), and (d) Regression Variables Entered/Removed<sup>a</sup>**

| Model | Variables Entered                                                           | Variables Removed | Method |
|-------|-----------------------------------------------------------------------------|-------------------|--------|
| 1     | Employment, Age, Gender, Education, Engagement in Revitalising <sup>b</sup> | ...               | Enter  |

<sup>a</sup>Dependent variable: Overall satisfaction with usability & effectiveness

<sup>b</sup> All requested variables entered

## Model Summary

| Model | R                 | R Square | Adjusted R Square | Std. Error of Estimate |
|-------|-------------------|----------|-------------------|------------------------|
| 1     | .659 <sup>a</sup> | .434     | .404              | 4.35338                |

<sup>a</sup> Predictors: (Constant), Employment, Age, Gender, Engagement in Revitalizing, Education  
ANOVA<sup>a</sup>

|            | Sum of Squares | df | Mean Square | F      | Sig.              |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 1314.161       | 5  | 272.832     | 14.396 | .000 <sup>b</sup> |
| Residual   | 1781.479       | 94 | 18.952      |        |                   |
| Total      | 3145.640       | 99 |             |        |                   |

<sup>a</sup> Dependent variable: Overall satisfaction with usability & effectiveness

<sup>b</sup> Predictors: (Constant), Employment, Age, Gender, Engagement in Revitalizing, Education

#### Coefficients<sup>a</sup>

|                            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|----------------------------|-----------------------------|------------|---------------------------|-------|------|
|                            | B                           | Std. Error | Beta                      |       |      |
| (Constant)                 | 11.279                      | 3.055      |                           | 3.691 | .000 |
| Gender                     | .180                        | .920       | .016                      | .195  | .846 |
| Age                        | .408                        | .842       | .046                      | .485  | .629 |
| Employment                 | .579                        | .608       | .076                      | .953  | .343 |
| Education                  | 1.062                       | .568       | .182                      | 1.869 | .065 |
| Engagement in Revitalizing | .506                        | .065       | .633                      | 7.780 | .000 |

<sup>a</sup> Dependent variable: Overall satisfaction with usability & effectiveness

From the above coefficient table, it can be seen that the p-values of Gender, Age, and Employment are > .05. Therefore, eliminating these variables, the linear regression analysis was done again, and we got the results as follows:

**Table 6. (a), (b), (c), and (d) Regression - REVISED Variables Entered/Removed<sup>a</sup>**

| Model | Variables Entered                                  | Variables Removed | Method |
|-------|----------------------------------------------------|-------------------|--------|
| 1     | Education, Engagement in Revitalising <sup>b</sup> | ...               | Enter  |

<sup>a</sup> Dependent variable: Overall satisfaction with usability & effectiveness

<sup>b</sup> All requested variables entered

#### Model Summary

| Model | R                 | R Square | Adjusted R Square | Std. Error of Estimate |
|-------|-------------------|----------|-------------------|------------------------|
| 1     | .653 <sup>a</sup> | .426     | .414              | 4.31512                |

<sup>a</sup> Predictors: (Constant), Awareness, Infrastructure

#### ANOVA<sup>a</sup>

|            | Sum of Squares | df | Mean Square | F      | Sig.              |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 1339.476       | 2  | 669.738     | 35.968 | .000 <sup>b</sup> |
| Residual   | 1806.164       | 97 | 18.620      |        |                   |
| Total      | 3145.640       | 99 |             |        |                   |

<sup>a</sup> Dependent variable: Overall satisfaction with usability & effectiveness

<sup>b</sup> Predictors: (Constant), Awareness, Infrastructure

#### Coefficients<sup>a</sup>

|                            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|----------------------------|-----------------------------|------------|---------------------------|-------|------|
|                            | B                           | Std. Error | Beta                      |       |      |
| (Constant)                 | 13.075                      | 1.992      |                           | 6.564 | .000 |
| Education                  | .952                        | .452       | .163                      | 2.106 | .038 |
| Engagement in Revitalizing | .520                        | .602       | .650                      | 8.397 | .000 |

Dependent variable: Overall satisfaction with usability & effectiveness

The  $R^2$  value of .426 shows that 42.6 % of the samples are influenced by the linear regression. From the F-table, it is clear that the p-value is  $.000 < .05$ , which confirms that there is a linear relationship between the dependent and independent variables. Therefore, the obtained linear regression is as follows:

$$Sa = 13.075 + 0.952 E + 0.520 Rv$$

where Sa is the Overall satisfaction with usability & effectiveness, E is the Education level, and Rv is the Engagement in Revitalizing Oman.

Thus, it can be seen that the 'Overall satisfaction with usability & effectiveness' is influenced by the Education level and Omani youths' overall Engagement in Revitalizing Oman.

### Conclusion

The study highlights the pivotal role of technological innovations in enhancing tourism competitiveness in Oman and strengthening Omani youth engagement in revitalizing the sector. Technologies such as Artificial Intelligence, Smart Cities, and the Internet of Things were identified as having substantial influence on tourism promotion and youth participation, though emerging concepts like the Metaverse and Sustainable Technology showed comparatively lower impact in certain areas.

Moreover, the respondents demonstrated strong agreement that tourism in Oman requires greater technological advancement to remain competitive globally, and that the youth population serves as a key driver of such innovation-led promotion. The correlation results confirm a significant positive association between youth engagement in revitalizing Oman's tourism destinations and their satisfaction with the usability and effectiveness of technological tools. This signifies that improving technology adoption, accessibility, and integration can directly enhance engagement levels.

The regression model further confirms that youth education level and engagement in tourism revitalization significantly contribute to their overall satisfaction with technological innovations. These insights emphasize the need for strategic investments in technology-driven tourism initiatives and capacity-building among youth to maximize engagement outcomes.

Overall, the findings strengthen the proposition that leveraging technological innovation — coupled with empowering the young population — can play a transformative role in shaping Oman's tourism future and driving sustainable national development.

### Recommendations

#### *For Tourism Development in Oman*

- **Enhance digital infrastructure** across major tourist destinations to improve accessibility and user engagement.
- **Integrate advanced technologies** such as AI-driven information systems, Smart City elements, and IoT-enabled services in tourism hotspots.
- **Develop immersive digital tourism experiences** using Augmented Reality (AR), Virtual Reality (VR), and Metaverse-based platforms to attract tech-savvy tourists.
- **Prioritize tech-enabled sustainability initiatives** that align with Oman's Vision 2040 for green and smart tourism.
- **Encourage public-private partnerships** to accelerate innovation deployment in the tourism sector.

#### *For Youth Engagement and Empowerment*

- **Launch targeted skill development programs** to train Omani youth in digital marketing, AR/VR content creation, and tourism technology.
- **Create incentive programs** for youth-led digital promotion of Oman's cultural and natural attractions.
- **Strengthen university-industry collaborations** to support innovation labs, tourism startups, and applied research projects led by youth.
- **Promote inclusivity in digital tourism initiatives**, ensuring youth from various educational backgrounds can participate.

#### *For Enhancing Satisfaction with Tech Innovation*

- **Improve usability and accessibility** of tourism tech platforms (apps, websites, info centers) to ensure a positive user experience.

- **Conduct regular feedback assessments** to continuously enhance the effectiveness of tourism technology tools.
- **Increase awareness campaigns** to improve understanding and utilization of technology among both tourists and residents.

#### Policy and Strategic Recommendations

- **Develop a national roadmap for smart tourism**, aligned with Oman's diversification strategy and digital transformation agendas.
- **Support innovation-driven tourism entrepreneurship** through grants, incubators, and tax incentives.
- **Establish regulatory frameworks** ensuring the ethical and responsible use of data gathered through digital technologies.

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