# Sustainable Business Practices Through Digital Transformation in Gwalior Tourism

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Abstract— Introduction: Digital tools are a useful resource for achieving objectives. Major management consultants and several governments are debating how to best use and accelerate the digital and sustainability transformation process.

Aim of the study: the main aim of the study is to Sustainable Business Practices Through Digital Transformation in Gwalior Tourism

Material and method: The adopted methodology to investigate the sustainable business practices through digital transformation in Gwalior tourism

Conclusion: The presented paper has been provided a comprehensive study for sustainable business practices through digital transformation in Gwalior tourism. The main objective of study was to assess the sustainability benefits in Gwalior tourism due to digital transformation. Key Words: Sustainable Business Practices, Digital Transformation, Gwalior Tourism.

#### I. INTRODUCTION

Digital tools are a useful resource for achieving objectives. Major management consultants and several governments are debating how to best use and accelerate the digital and sustainability transformation process. Artificial intelligence and machine learning are advancing exponentially, as Merrill et al. (2019) pointed out, both corporations and governments are vying to fully use their potential. The phrase "digital imperative" acknowledges the inevitable shift toward digitization in an environment of increasing competition. Alakeson and Wilsdon first advocated for policy development to capitalise on how digital technology may boost economic growth while easing environmental strain in 2002. This potential is applicable in a wide range of fields, including knowledge development and sharing, information

transparency, management, and assessment, as well as communication, coordination, trust, access, and reach. This is true for institutions more broadly than just corporations. However, even while sustainability is without a doubt one of the phenomena that is expanding the fastest, it is still an area of application for digital technology that is not extensively acknowledged. This is unusual in the management literature since it is well known that top businesses are progressively transforming their business models with the help of these technologies in order to better address social concerns. Absent compelling proof, scepticism about the real benefits of digitization for sustainability may persist. However, how can we embrace a conscious ethical willingness in the use of technology if the march of digital change cannot be stopped? Because it directly affects regulators and practitioners' ability to design successful policies and strategies, the dearth of scholarly advice on the subject warrants investigation. Here, the concern is with the help that management academics provide to businesses and business regulatory agencies. How science delivers on its promise to spur innovation in the economy and society is at risk. The proposed research contributes to the ongoing discussion on sustainable innovation, advancing it with a crucial emphasis on digital transformation, and more specifically, on the reconciliation between sustainability challenges and innovation practices. Del Ro Castro et al. recently published a review on the application of digital technologies to the UN Sustainable Development Goals (SDG). Their paper demonstrates growing expectations for the role that digitalization will play in achieving the SDGs, particularly in light of increased access to new data sources, enhanced analytical skills,

and collaboration among digital ecosystems. However, the authors explicitly focused on the SDGs and based their study in large part on nonacademic literature. As a result, there is still a need for understanding and evaluating scholars' contributions to the subject, which greatly inspired the creation of this paper.

# 1.1 Relationship Between Sustainability And Digitalization

Sustainability and digitization are two megatrends influencing the economy and society, as highlighted by Brenner and Hartl (2021), which calls for significant adjustments. However, "sustainability" and "digital technology" first seem to be unrelated concepts. According to authors like Gebhardt (2017), the clashing ideas cause a paradigm shift in social and ecological systems. However, Osburg (2017) notes that these concepts are game changers and strategic imperatives that have the power to bring about significant changes. It is exceedingly difficult to characterise the two notions due to comprehensive nature. The UN Brundtland Commission defined sustainability as "development that fulfils the requirements of the present without compromising the capacity of future generations to meet their own needs" in 1987. This definition is the one that is most often used by academics, practitioners, and policymakers. This definition, according to Banerjee (2003), is often used interchangeably with the phrase development," however it is just one of several that have been created over the years. The idea of sustainability, according to authors like Moldavska and Welo (2017) and Del Ro Castro et al. (2021), has often been misapplied, combining many viewpoints that have diminished its genuine significance and hampered its fulfilment. In actuality, the phrase "sustainability" is multi- and transdisciplinary in nature, impacting socio-economic organisations at all levels via actions, choices, and behaviours. For instance, the decision-making process sustainability often demonstrates cultural biases and displays divergent viewpoints in terms of openness, investment attitude, and risk perception. This is true variety of stakeholders. including owners/managers, governments, and clients. Last but not least, participation of stakeholders in the cocreation of shared value is crucial to sustainability. As

a consequence, the definitions argument is far from over and the need of having a single definition of sustainability is called into doubt. Diverse viewpoints on sustainability may enliven the conversation and even increase its applicability to certain stakeholders or sectors. Examples of specifications in various circumstances include "urban sustainability" or manufacturing." "sustainable Professional organisations have also created their own definitions for terms like "sustainable procurement," which is defined as "the act of adopting social, economic, and environmental factors alongside the typical price and quality considerations into the organizations' handling of procurement processes and procedures" by the Chartered Institute of Procurement and Supply (CIPS), for example. Additionally, different stakeholders from a wide range of sectors, such as governments, nongovernmental organizations, consumers, and businesses, have different ideas of what sustainability entails. It is crucial to remember that in this context, Western conceptions of sustainability and "sustainable development" have also come under fire for having negative effects on minorities like indigenous communities. It is argued that taking into account minority perspectives may instead result in new conceptions of socio-technical change, characterised by a fairer and more organic understanding of sustainability, as well as a major integration. Even so, one of the biggest gaps in the implementation of sustainability is the existence of various stakeholder perspectives, and any effort to further develop a unified idea risk prolonging the divisive discussion.

#### II. LITERATURE REVIEW

Guandalini, Ilaria (2022) This paper examines the connections between these two phenomena in light of the growing interest among businesses and regulators in how digital transformation can contribute to sustainability improvement. This study specifically pioneers the study of "digital sustainability" through a systematic review of 153 academic articles with the goals of 1) bringing together the existing research, 2) figuring out how the various studies are related thematically, and 3) identifying research gaps to advance the development of the subject. There are significant theoretical and practical consequences to the recommended study agenda. This study acknowledges the management scholarship of pitfalls

and delays on the research topic through the gaps it has identified while offering comprehensive advice for the development of this new stream of subject matter. The pragmatic request for assistance in comprehending the use of digitalization for sustainability-related goals is addressed by the paper's opportunistic approach. Numerous practitioners, including managers, consultants, and politicians, are directly impacted by this study.

Katsamakas, Evangelos (2022) The definition, supporting technology, and approaches to digital transformation are all covered in this article. In order to optimise the effects of their digital transformation plan, businesses are advised to work toward developing a Sustainable Business Model (SBM). It also introduces the Special Issue's seven articles. The study adopts a systems perspective in its entirety, recognising the dynamic complexity of digital transformation, and it makes several recommendations for future research.

Philbin, Simon & Viswanathan (2022) The growth and development of the economy are mostly driven by small and medium-sized businesses (SMEs). The ability to innovate via digital transformation may help make goods and services more sustainable, competitive, and customizable. But little is known about how SMEs use digital technology to support sustainable results. An initial dataset of 1300 articles was found through a systematic review of the literature; however, after screening and the use of exclusion criteria, only 64 articles remained for synthesis. Three main areas were examined: the technological aspects of the digital transformation, sustainable development in accordance with the triple bottom line (i.e., economic, environmental, and social aspects), and the characteristics of SMEs' commercial operations. In the latter scenario, the literature is used to pinpoint organisational structure, organisational culture, skills and qualification requirements, and leadership factors. In addition, a literature review of industry 4.0 technology adoption and the triple bottom line dimensions is done. The type of technology that helps SMEs move in the direction of sustainable development is correlated with the data through bibliographic analysis, and future research directions resulting from the study are summarized.

sustainability, & Khurram, Muhammad Usman (2022) It is advocated that digitization may speed up the shift to a more sustainable future. The efficiencies brought about by digital automation and the expanded reach made possible by digital services may help businesses meet their sustainability goals more quickly. However, increasing our capacity for the future requires financial resources on sustainable refocusing businesses, governments providing incentives for endeavors, consumers sustainable favouring sustainable goods and services, and staff members demanding sustainable management. Decisions made by organisations must be data-driven and may need to integrate their digital transformation sustainability objectives. Thinking beyond profit and putting social and environmental concerns on an equal footing with financial goals are necessary to address the significance of integrating sustainability strategies into roadmaps for digital transformation. We have an opportunity to reconsider our decision-making processes and find new and useful applications for technology thanks to the rapid digitisation sparked by COVID-19. There are several chances for businesses that can use data to create more sustainable solutions. For a business to succeed, today's digital transitions must be purpose-driven and provide value to all stakeholders.

Kargar Shouraki, Mohammad (2022) Although financial and economic concerns are one of the biggest business challenges, firms have also had to deal with two additional obstacles in recent years, including the need for sustainability and the correct and timely use of digital transformation technologies. In order to regard these problems as the primary obstacles of their business model, firms should stress the difficulties associated with social, environmental, and digital transformation factors in addition to sustainable economic profitability difficulties. However, in order to adapt to the changes brought on by new problems, firms require new dynamic skills. These inborn skills concentrate on the progress and sustainability of digital technology. The necessity for attention and an acceleration of the formation and development of such skills in enterprises became glaringly obvious with the beginning of the COVID-19 illness. Method: The mixed-method study design included six different research techniques: meta-synthesis, thematic analysis, interpretive-structural model, cognitive

rating cluster map, DEMATEL, and analytic network process. Three methods, three facets, seven dimensions, and 19 components made up the paradigm this research suggested. Three parts of its seven primary components were taken into consideration using quantitative modelling, including ""Digital/sustainable outcomes," "digital/sustainable execution," and "direction/sustainable using digital technology." Three dynamic digital/sustainable skills, including "digital scouting," "sustainable computing," dimensions including recognising opportunities and dangers, exploiting chances, and transformation "The digital sustainability model introduced sustainable interaction.

#### III. RESEARCH METHODOLOGY

The adopted methodology to investigate the sustainable business practices through digital transformation in Gwalior tourism is explained as follows:

Step-1) Identification of factors affecting the sustainable business practices through digital transformation in Gwalior tourism: First of all, 20 factors including demographic factors were identified through literature review and discussion with experts. These 20 factors are shown in Table 1.

Step-2) Questionnaire Design: There were two parts in questionnaire namely part-1 and part-2. In part-1, demographic information of respondents was asked such as age, gender, salary per month, salary satisfaction and type of employment. The list of 15 factors affecting the sustainable business practices through digital transformation in Gwalior tourism is presented to respondent in part II. Degree of agree of each of 15 factor was asked to respondents on five-point scale (1 to 5).

Step-3) Validity of Questionnaire: Experts were also asked to compute the percentage of questions looked to be apposite for them. Average of all experts' percentage is called as Average Congruency Percentage (ACP) [Popham, 1978]. ACP tells the validity of questionnaire i.e. whether the questionnaire measure the objectives in which it is intended to measure or not. Poham (1978) concluded that if ACP value is greater than 90% then questionnaire will be also valid.

Step-4) Reliability of Questionnaire data: In order to show the internal consistency of data, this paper estimate the reliability of questionnaire data using Cronbach's alpha (Cronbach, 1951), which is given as follows;

## Cronbach's alpha formula

If, we measure a quantity which is a sum of K components (K-items), that is,  $X = Y_1 + Y_2 + Y_3 + \cdots + Y_k$ . Then, the Cronbach's  $\alpha$  can be defined as-

$$\alpha = \frac{\kappa}{\kappa - 1} (1 - \frac{\sum_{i=1}^{K} \sigma_{Y_i}^2}{\sigma_X^2})$$
 (2)

Where,  $\sigma_X^2$  is the variance of the observed total test scores,  $\sigma_{Y_i}^2$  and the variance of component *i* for the current sample of respondents. As shown in Table 2, data having Cronbach's alpha greater than 0.7 can be considered as reliable for further analysis.

Table 2: Recommendations for Reliability of Questionnaire

Cronbach's	Internal
Alpha	Consistency
$\alpha \ge 0.9$	Strongly Agree
$0.9 > \alpha \ge 0.8$	Agree
$0.8 > \alpha \ge 0.7$	Neither agree
	nor disagree
$0.7 > \alpha \ge 0.6$	Disagree
$0.6 > \alpha \ge 0.5$	Strongly
	disagree
$0.5 > \alpha$	Unacceptable

Step-4) Frequency and Descriptive Analysis of Data: The frequency (f) of a particular value is the number of times the value occurs in the data. The distribution of a variable is the pattern of frequencies, meaning the set of all possible values and the frequencies associated with these values. Frequency distributions are portrayed as frequency tables or charts. Frequency analysis of each factor describe the number of respondents choosing a particular category of agree. In SPSS software, the frequencies procedure can produce summary measures for categorical variables in the form of frequency tables, bar charts, or pie charts. Moreover, mean and standard deviation of data is calculated in descriptive analysis of data.

Step-5) Hypothesis Testing: The One-Way ANOVA test is performed to test whether there is significance difference between the responses given by the

respondents of different, age, gender and income group. Therefore, One-Way ANOVA test is applied to test the following hypothesis:

Null Hypothesis H01: There is no significance difference between the responses given by the respondents of different age group.

Alternate Hypothesis Ha1: There is significance difference between the responses given by the respondents of different age group.

Null Hypothesis H02: There is no significance difference between the responses given by the respondents of different gender group.

Alternate Hypothesis Ha2: There is significance difference between the responses given by the respondents of different gender group.

Null Hypothesis H03: There is no significance difference between the responses given by the respondents of different income group.

Alternate Hypothesis Ha3: There is significance difference between the responses given by the respondents of different income group.

#### IV. RESULTS AND DISCUSSION

After analyzing the questionnaire using SPSS26 software, the obtained results are discussed as follow; 4.1 Validity and Reliability Assessment

Since the ACP value is found 93%, which is well-above the recommended value (90%). Therefore, respondents have stated that the developed questionnaire is appropriate to measure the objectives of study. Also, the value of Cronbach's Alpha is calculated as 0.869, therefore, the collected data can be considered to be reliable for further analysis.

#### 4.2 General information about respondents

General information about the respondents is presented in Table 2. In the questionnaire survey most of the respondents (27%) were in the age group of 31-40 years. In collected data, 49% respondents were female and 46.5% respondents were male, while only 4.5 respondents were transgender. It was observed that salary of maximum respondents (26.5%) was 40000 to 5000 INR per month, and 66% respondents were satisfied and 34% respondents were unsatisfied with their salary. In the questionnaire survey, 29% respondents were public employee, respondents were private employee and 35.5 % respondents were entrepreneur.

### 4.3 Frequency and Descriptive Results

Results of frequency and descriptive analysis are presented in Table 2. General information of respondents has been discussed in sub-section 4.2. In this sub-section, frequency and descriptive analysis of remaining factors affecting the sustainable business practices through digital transformation in Gwalior tourism are discussed.

Table 2 Frequency and Descriptive Results

Part-1: Demographic Information								
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_	%	%	%	%				
2.	46.	49	4.5	-	-	-	-	
Gender:	5		10	2.5	10			
3.	21.	21.	18	26.	12.	-	-	
Salary	5%	5%	%	5%	5%			
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4.	66	34	-	-	-	-	-	
Salary	%	%						
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of	%	5%	5%					
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Part-2:		actors		ecting	the			
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cultures;							
11.	17.	22.	24	24.	11.	2.	1.
Digital	5%	5%	%	5%	5%	90	2
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12.	15.	9%	32.	40.	2.5	2.	0.
Digital	5%	7/0	5%	5%	%	43	9
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Digital 5% % % % 5% 98	2
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facilitat es the fairly distribut ion of socio- economi c benefits, such as employ ment and							
income;	2.7	1.6	4.5	26	4.5		
17. Digital transfor mation of tourism provides stable employ ment opportu nities;	3.5 %	10.	15. 5%	28 %	42. 5%	3. 96	1. 1 5
18. Digital transfor mation of tourism ensures optimal use of environ mental resource s;	2.5 %	10 %	20. 5%	16 %	51 %	4. 03	1. 1 6
19. Digital transfor mation of tourism increase s the revenue	2.5 %	13. 5%	21. 5%	38 %	24. 5%	3. 69	1. 0 6

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tourism							
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;							
20.	6.5	14.	29.	31	18.	3.	1.
Digital	%	5%	5%	5%	5%	39	1
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As shown in Table 2, based on the frequency and descriptive analysis of data, following noteworthy illustrations can be made:

- Mean and standard deviation values for factor 'digital transformation provides the energy efficient tourism' is found as 4.17 and 0.96, respectively. Most of the respondents were strongly agree that digital transformation provides the energy efficient tourism.
- Mean and standard deviation values for factor 'digital transformation helps in water conservation and waste management for sustainability' is found as 3.71 and 1.06, respectively. Most of the respondents were agree that digital transformation helps in water conservation and waste management for sustainability.
- Mean and standard deviation values for factor 'digital transformation of tourism helps in controlling the greenhouse gas emissions and carbon offsetting schemes' is found as 3.70 and 1.02, respectively. Most of the respondents were agree that digital transformation of tourism helps in controlling the greenhouse gas emissions and carbon offsetting schemes.
- Mean and standard deviation values for factor 'digital transformation of tourism helps to improve the community relations, labour practices and human rights' is found as 4.07 and 1.15, respectively. Most of the respondents were strongly agree that digital transformation of tourism helps to improve the community relations, labour practices and human rights.

- Mean and standard deviation values for factor 'digital transformation of tourism maximizes the positive impact of tourism on local cultures' is found as 3.58 and 1.00, respectively. Most of the respondents were agree that digital transformation of tourism maximizes the positive impact of tourism on local cultures.
- Mean and standard deviation values for factor 'digital transformation of tourism ensures and monitor the public health and safety' is found as 2.90 and 1.28, respectively. Most of the respondents were agree that digital transformation of tourism ensures and monitor the public health and safety.
- Mean and standard deviation values for factor 'digital transformation of tourism helps in write and circulate the responsibility statement for showing the all the sustainable activities' is found as 2.43 and 0.94, respectively. Most of the respondents were agree that digital transformation of tourism helps in write and circulate the responsibility statement for showing the all the sustainable activities.
- Mean and standard deviation values for factor 'digital transformation of tourism increases the community participation' is found as 3.39 and 1.19, respectively. Most of the respondents were neither agree that digital transformation of tourism increases the community participation.
- Mean and standard deviation values for factor 'digital transformation of tourism contributes to poverty alleviation' is found as 2.47 and 0.97, respectively. Most of the respondents were disagree that digital transformation of tourism contributes to poverty alleviation.
- Mean and standard deviation values for factor 'digital transformation of tourism preserves/protects cultural assets' is found as 3.96 and 0.98, respectively. Most of the respondents were strongly agree that digital transformation of tourism preserves/protects cultural assets.
- Mean and standard deviation values for factor 'digital transformation of tourism facilitates the fairly distribution of socio-economic benefits, such as employment and income' is found as 2.98 and 1.22, respectively. Most of the respondents were agree that digital transformation of tourism

facilitates the fairly distribution of socio-economic benefits, such as employment and income.

- Mean and standard deviation values for factor 'digital transformation of tourism provides stable employment opportunities' is found as 3.96 and 1.15, respectively. Most of the respondents were strongly agree that digital transformation of tourism provides stable employment opportunities.
- Mean and standard deviation values for factor 'digital transformation of tourism ensures optimal use of environmental resources' is found as 4.03 and 1.16, respectively. Most of the respondents were strongly agree that digital transformation of tourism ensures optimal use of environmental resources.
- Mean and standard deviation values for factor 'digital transformation of tourism increases the revenues of tourism business' is found as 3.69 and 1.06, respectively. Most of the respondents were agree that digital transformation of tourism increases the revenues of tourism business.
- Mean and standard deviation values for factor 'digital transformation of tourism increases the number of tourists' is found as 3.39 and 1.14, respectively. Most of the respondents were agree that digital transformation of tourism increases the number of tourists.
- Mean and standard deviation scores chart are shown in Fig. 1 and Fig. 2. The maximum mean value is found for digital transformation provides the energy efficient tourism, and the maximum standard deviation value if found for factor digital transformation of tourism facilitates the fairly distribution of socio-economic benefits, such as employment and income.

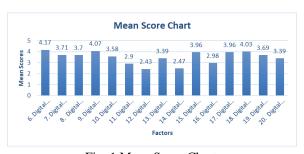


Fig. 1 Mean Score Chart

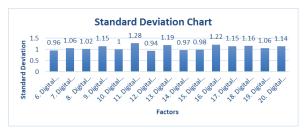


Fig.2 Standard Deviation Chart

#### 4.3 Hypothesis Testing Results

One-way ANOVA test is used for hypothesis testing. For all three hypothesis, p-value is found greater 0.05. Therefore, all three hypotheses are accepted, and following conclusion can be based on hypothesis testing;

- There is no significance difference between the responses given by the respondents of different age group.
- There is no significance difference between the responses given by the respondents of different gender group.
- There is no significance difference between the responses given by the respondents of different income group.

#### **CONCLUSION**

The presented paper has been provided a comprehensive study for sustainable business practices through digital transformation in Gwalior tourism. The main objective of study was to assess the sustainability benefits in Gwalior tourism due to transformation. For this purpose, questionnaire is done for 20 questions, and total 200 valid responses were collected. The ACP value and Cronbach's Alpha are calculated as 93% and 0.869, therefore, the questionnaire can be considered to be valid and data collected through questionnaire survey can be considered to be reliable. Frequency and descriptive analysis of data illustrate following noteworthy points: 1) Most of the respondents were strongly agree that digital transformation provides the energy efficient tourism, 2) Most of the respondents were agree that digital transformation helps in water waste management conservation sustainability, 3) Most of the respondents were agree that digital transformation of tourism helps in controlling the greenhouse gas emissions and carbon offsetting schemes, 4) Most of the respondents were strongly agree that digital transformation of tourism helps to improve the community relations, labour practices and human rights, 5) Most of the respondents were agree that digital transformation of tourism maximizes the positive impact of tourism on local cultures, 6) Most of the respondents were agree that digital transformation of tourism ensures and monitor the public health and safety, 7) Most of the respondents were agree that digital transformation of tourism helps in write and circulate the responsibility statement for showing the all the sustainable activities, 8) Most of the respondents were neither agree that digital transformation of tourism increases the community participation, 9) Most of the respondents were disagree that digital transformation of tourism contributes to poverty alleviation, 10) Most of the respondents were strongly agree that digital transformation of tourism preserves/protects cultural assets, 11) Most of the respondents were agree that digital transformation of tourism facilitates the fairly distribution of socio-economic benefits, such as employment and income,

12) Most of the respondents were strongly agree that digital transformation of tourism provides stable employment opportunities, 13) Most of the respondents were strongly agree that digital transformation of tourism ensures optimal use of environmental resources, 14) Most of the respondents were agree that digital transformation of tourism increases the revenues of tourism business, 15) Most of the respondents were agree that digital transformation of tourism increases the number of tourists.

Based on hypothesis testing, following points were observed;

- There is no significance difference between the responses given by the respondents of different age group.
- There is no significance difference between the responses given by the respondents of different gender group.
- There is no significance difference between the responses given by the respondents of different income group.

Therefore, based on the above discussion, the digital transformation of Gwalior tourism plays a significant role in the sustainable business practices. However, digital transformation of Gwalior tourism may reduce the number of employees due to involvement of more technology. The study is limited to 200 responses, and further study can be conducted with more sample size.

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