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DEVELOPMENT OF MECHANISM FOR TOURISM INFLUX IN MALAKAND DIVISION

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Abstract

Decisions based on data are always effective and successful. The study intends to explore sources through which tourism influx data can be collected for onward usage for tourism planning and management and to develop a mechanism through which data about tourism influx can be extracted. Qualitative methods in the shape of in-depth interviews were used for data collection and thematic analysis was done. Data was collected from the sample of tourism industry professionals, faculty members of the tourism departments and other tourism related stakeholders. Various sources for data collection were identified and after a thorough analysis, mechanism was developed through which data of tourists' arrival can be collected with accuracy. The study recommends that the use of the proposed mechanism will provide the exact number of tourists visiting the Malakand Division. Limitations of the study and future calls are part of the study.

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INTRODUCTION

The tourism industry is a key global sector, it plays a vital role in economic growth, regional development and job creation. The benefits of tourism are manifold (Hanif, Alam, & Manzoor, 2021). The benefits of tourism are multiplied when policies and planning are carried out based on real data. Tourism bodies need data for decision making (Volo, 2020). Decisions remain very effective when it is the outcome of real available data. The provision of accurate data is a challenge to the policy makers in this modern era (Demunter, 2017). Most of the decisions are based on assumptions or on sources which are not that reliable and trustworthy. These tourism statistics helps in planning tourism facilities and infrastructure in the likes of airports, roads, highways, bridges and other tourism related infrastructure (Frechtling, 2012). The other most important aspect of this data is to help different bodies to manage pleasant experiences for tourists (Volo & Giambalvo, 2008). The effectiveness of policies and strategies are determined on the sources of information and data. The tourism data helps in developing businesses, policy decisions and their impact on economies (Finland, 2016). Tourism data helps in measuring contribution, monitoring trends, identifying opportunities, informing decisions, sustainable development, emergency preparedness, targeted marketing, capacity management, service improvement, international comparisons, knowledge sharing and monitoring progress (Palmer, Sese, & Montano, 2005). These benefits are multiplied when the data sources are genuine and accurate. The originality of data is the prerequisite for decisions' effectiveness. Fake or fabricated data leads to wrong decisions and is a double-edged sword for regions and countries. Keeping in view sources of data for decision making in Pakistan are perception based and seems hypothetical which leads to ineffective and uninformed decisions. This study intends to find authentic and accurate sources to find the exact number of tourists arrival in the Malakand Division. This will facilitate planning and decision making for tourism in the area. Policy makers and industry will benefit and will bear fruit for the local community as well.

The objectives of this report are the following.

To identify sources through which tourism influx data can be collected for onward usage for tourism planning and management.

To develop a mechanism through which data about tourism influx can be extracted.

The scope of the study is limited to the Malakand Division. It is limited to only sources of tourism influx. In this study sources of tourism influx are identified and

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keeping in view all sources, a mechanism has been designed to assess the number of visitors to the Malakand Division to be used for onward tourism planning and management.

The study will help policy makers to identify reliable sources of data collection on the basis of which they can make informed decisions, carry out planning and management of tourism in the country.

The study has got significance for the tourism industry as decisions made on reliable data will help the industry to grow. It will be easy for industry to strengthen tourism products for tourists. Make destinations competitive and make tourism experience pleasant for tourists. Issues related to overtourism, overcrowding, pollution, resource exhaustion, resource dilapidation, loss of biodiversity, overwhelming services, cultural loss, increased living costs, social issues, neglecting other sectors, loss of privacy, seasonal employment, habitat destruction, and climate change can be minimized or controlled for sustainable tourism practices in the area.

The study will help the local community as they will get maximum benefits from tourism in the shape of employment, economic development, trickledown effect and all other benefits of tourism. Community benefits through economic growth, job creation, cultural preservation, increased income, business development, infrastructure development, cultural exchange, community pride, education and awareness, conservation efforts, resource management, sustainable income, improved local services and environmental impacts. Through these benefits, it increases community involvement thus resulting in increased tourism activities and tourism development.

LITERATURE REVIEW

Organization to make decisions relying on data rather than past experiences and intuition (Shrestha, Ben-Menahem, & Von Krogh, 2019). Past experiences and in some cases, intuition gives some light for decisions but highly data driven organizations are three times better in improving the quality and effect of decision making than those who rely less on data. The collection and analysis of data is the core in all organizations (Shapira, 2002). How exactly the data is incorporated into decision making is dependent upon the goals of the organization and the quality of data you have access to. Data driven decision making is a modern phenomenon in organizations (Rousseau, 2018). Collection of data according to the organization's Key performance indicators and then transforming the data into actionable insights. To make data driven decisions, the first step is to know your vision; what you want to achieve, what is your

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objective, it makes your journey directional and easy. The second step is to find data sources; once your objective is clarified, now you can collect the required data, and for collection of the required data, the most important thing is to identify sources of data which gives you exact and accurate data you are looking for. The third step is to organize your data, if you cannot connect to your data and put it in one place, then it is hard to make informed decisions (Bruch & Feinberg, 2017). So, organizing your data in a meaningful shape gives you the edge to make effective and quality decisions. The fourth step is to make analysis of the organized data in meaningful manner to help effective decision making. Analysis is always done in the light of the goals and objectives. The last step in this process is to draw conclusions from the data analysis. What do you see in the data, what new information did you learn from the data and how you can use this information to meet your objectives and goals (Elbanna, 2006).

The advantages of data driven decisions are to keep your business fair, goal oriented and focused on improvement. When decisions are based on data, organizations make confident decisions. This confidence can lead to team morale and improved performance (Lunenburg, 2010). Data based decisions guard organizations from internal and external biases. Without data there might be questions unanswered, an amount of data can visualize those areas you cannot see without data. Data makes you able to set measurable goals otherwise not possible. Data gives you an opportunity to improve company processes in the shape of various dimensions like risk management, cost estimation, customer service, new hiring data, performance appraisal and many more.

Data driven decision making approach adaptation also possess some challenges in the shape of data quality and accuracy. Poor data quality lead to flawed analysis thus resulting in misguided decisions. Data security and privacy need to be ensured. Data driven decision making creates change which most of the time are resisted. Large amounts of data also need to have proper storage and confidentiality. These challenges need to be tackled tactfully to get benefits of data driven informed decisions.

Tourism influx to the area bring prosperity and economic benefits (Tovar-Sánchez, Sánchez-Quiles, & Rodríguez-Romero, 2019; Yang & Lo, 2018). The benefits are multiplied if the influx is accurately anticipated and measured so that planning and management of tourists become an easy job. Pakistan is among the top destinations around the globe, which offers variety of products and services to the tourists (Hanif et al., 2021). Pakistan is expected to generate

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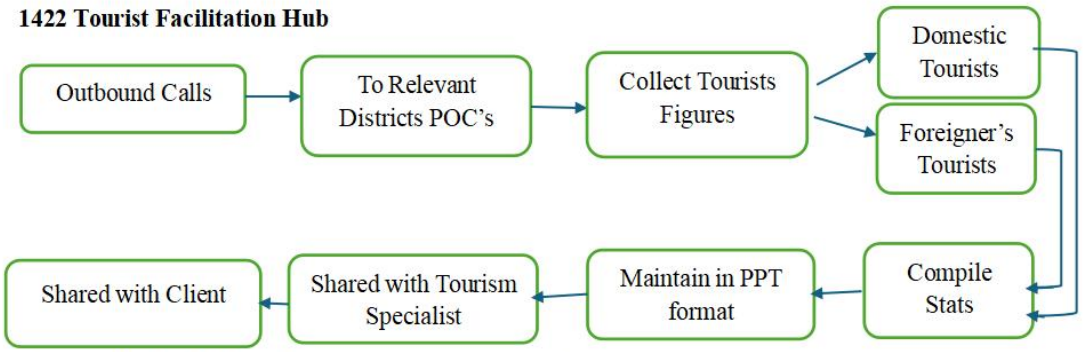
US$ 4.6 bn in the year 2025. The annual growth till 2029 is projected as 6.75% (Statista, 2025). Keeping in view huge demand for the future, proper planning and policies need to be formulated to give pleasant experiences to tourists.

The existing system of assessing and reporting tourists' influx seems questionable. It is mostly based on perception and estimation, which do not give exact information about tourists' arrival. The present system of Tourism Facilitation Hub (TFH) mechanism of Khyber Pakhtunkhwa Culture and Tourism Authority are presented in the following Diagram.

Diagram 1. TFH- KP Tourists Influx States Procedure



(Source: Khyber Pakhtunkhwa Culture & Tourism Authority)

The above mechanism is used by Khyber Pakhtunkhwa Culture and Tourism Authority for measuring tourists' influx in Khyber Pakhtunkhwa. The number of foreign tourists can somehow be measured by using this mechanism as legal obligation in the shape of no objection certificate for their visits and other documentation associated with their movements are involved but in the case of domestic tourists, these figures may greatly vary. For most of the data, they rely on cameras, fixed on various entry points. They also consult information desks located in that area. Using these sources is perceived that it may not yield exact results as there are many loopholes in it.

This report is intended to provide a mechanism for tourism influx in the Malakand Division based on factual data and reliable sources, if found reliable the same mechanism then it can be extended to other parts of the country and can be used for tourism policies, planning and management.

SOURCES FOR DATA COLLECTION

Keeping in view the sources used internationally and available sources domestically, the following are some of the suggested sources which can be employed to collect factual and reliable data for tourists' influx in Malakand Division.

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1. At every entry point to Malakand division like Swat Expressway, GT Road Shergarh, Buner, Shangla and Bajaur, there should be an information desk providing an entry sticker (barcoded) with expiry date mentioned. This sticker will facilitate them to pass through easily at various check posts and it will help us to know the number of tourists visiting Malakand division. The same data then will be compiled and used for further analysis or reporting and decision making.

2. The use of smart technology in the shape of cameras, sensors, and devices like IOT (Internet of things) will help in providing real-time data about crowd density, tourist movements and traffic congestion, will provide favorable environment for tourists' flows management and managing infrastructure for tourists. CCTV cameras should be installed with these entry points which can scan the barcode displayed on the sticker (Li, Xu, & Zhao, 2015; Rose, Eldridge, & Chapin, 2015). The same cameras can also detect strange vehicles in the Malakand division with the help of which they can count the influx of tourists.

3. Hotel Eye software will also help to provide information about tourists staying in hotels and the same software can also be helpful for local law enforcing agencies. This software is linked with all the stakeholders for ready reference for safety and security and tourists' number as well.

4. Destination Tourism Task Force can also be beneficial in collecting data about the influx of tourists. This taskforce will also help in effective destination management. Collaborating with destination management organizations (DMOs) and other tourism bodies can help in accessing databases for data collection, joint surveys conduction, and can highlight best trends and practices in tourism research.

5. Local police and specifically Tourism Police can also be helpful in the collection of the data. They can help in checking the variations in the number of tourists. Number of vehicles and tourists as they remain in direct contact with tourists in contact areas. Firsthand data collection is more likely easy with using this source.

6. Tourist Information Centers (TIC) / Tourist Facilitation Centers are the two sources through which data can be extracted. These offices can collect data through tourists' visits, feedback forms and their enquiries about destinations or other information. These points provide information about visitors' needs and interests.

7. Souvenirs shops are another useful source to get the tourists' influx information by analyzing their buying pattern, their transactions, spendings and financial data provide insight into payment patterns and number of tourists.

8. Interviewing locals can also be helpful in collecting the number of

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tourists. Residents can provide valuable data about the preferences of tourists, satisfaction mechanism and number of tourists. This can be done with the help of crowdsourcing platforms and other such tools. The data collection can be conducted in interaction with tourists at hotels, airports, attractions, or some online mediums can be adopted.

9. To verify data, designing software which can cross-validate the number of all these data sources will work. Mobile apps with features of tourism related activities will facilitate assessing the number of tourists, their preferences and behavior, will enhance the experiences of visitors. The use of Global Positioning System (GPS) can monitor individuals' movement in certain destinations for a particular period of time can also give an insight into the number of tourists in certain destination.

10. To reduce the traffic and congestion at the destinations and help the environment, tourists may be asked to use a specially assigned vehicle for tourists' transportation rather than using their personal vehicle. Companies, associated with tourists' transportation in the shape of trains, airlines and other means of transportation, track passenger numbers and routes, providing valuable information about tourist arrivals and departures. This method can also help with getting the number of tourists.

11. One of the most modern approach is Social media analytics (Batrinca & Treleaven, 2015; Fan & Gordon, 2014; Wang & Ye, 2018; Zeng, Chen, Lusch, & Li, 2010). In this approach data is collected and analyzed from social media platforms like Facebook, twitter, Instagram, hashtags and analyzing the data for meaningful results. By studying their frequency, pattern and preferences in their visits. This qualitative data complements quantitative data from other sources and provide a source for tourists' influx and other patterns.

12. Tracking mobile phones of tourists through various mobile apps can be another source for data information about tourists' movements, behaviors and numbers. This data can be collected through mobile apps, Wi-Fi networks, or telecommunications providers (Islam, Islam, & Mazumder, 2010; Stocchi, Pourazad, Michaelidou, Tanusondjaja, & Harrigan, 2022).

13. Now a days Satellite Imagery is commonly used for crowd numbers estimation at popular tourist destinations, especially outdoor attractions and events. This will help in assessing the numbers of tourists' arrivals in certain destinations (Burke, Driscoll, Lobell, & Ermon, 2021; Mohanty et al., 2020).

14. Festivals, cultural events and other crowd gathering events are other sources through which we can explore the number of tourists at certain period by tracking their attendance.

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15. In inaccessible areas finding tourists' number, infrastructure development and studying environmental impacts, the most common methods are the use of remote sensing technologies such as drones or aerial surveys (Rogan & Chen, 2004; White et al., 2016). Aerial surveys and drones provide the required data about tourists.

16. Data mining and web scrapping can also be employed to get information from travel websites, online travel forums and booking platforms to assess numbers of tourists, accommodation preferences and other information associated with travel and tourism (Agag & El-Masry, 2017; Bronner & de Hoog, 2016; Carstens & Patterson, 2005).

17. Sharing data and making collaborations with other agencies like airlines, tour operators, travel agencies, accommodation businesses and transport organizations can also facilitate collecting data about tourists' arrivals and other preferences of tourists. .

18. The conduction of seasonal surveys at regular interval throughout the year can explore fluctuations in tourists' arrival, demographics variation, spending frequencies and accommodation preferences, also provide information about tourists' patterns (Lundtorp, 2001; Turrión-Prats & Duro, 2018).

These methods can provide valuable data for understanding tourists' influx and making informed decisions regarding tourism development and management.

METHODOLOGY

After studying all the relevant information, I have collected data from a sample of 10 tourism experts, including tourism industry professionals, faculty members of the tourism departments and other tourism related stakeholders and its analysis is presented hereunder. In-depth interviews were conducted, codes were made, and themes were derived from the data. On the basis of those themes, the mechanism was developed.

DATA ANALYSIS AND RESULTS

This project has two objectives which are to identify sources through which tourism influx data can be collected for onward usage for tourism planning and management and to develop a mechanism through which data about tourism influx can be extracted. Ten experts were interviewed. Their responses are presented in the following section.

They opined that there should be an entry of the tourists on the entry points to the Malakand Division. Most of them supported that the entry of tourists on these entry points by tourism police and other law enforcing agencies or motorway police will give accurate data of tourists' influx. Apart from it, tourists' influx can also be measured at the destination entry point. Tages on vehicles on entry point are another option for counting tourists.

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Some of the respondents are of the belief that sensor strips on roads can be another option for tourists count. The vehicle can also give us an idea where the recognition of local and visitors vehicles would be a challenge. Mechanisms for identification of local and visitors' vehicles can be identified with the help of law enforcing agencies/ tourism police so that it will reflect the exact number of tourists. Another option for tourist counting is to use local tourists designated transportation to take them to their destinations so that road loads can be minimized and environmental sustainability can be ensured. The active role of the tourism police can also be helpful in determining the exact number of tourists. They should develop an app for tourists' influx and maybe displayed on entry points and without registration no tourist is allowed to enter the Malakand division. In this app tourists are required to enter their CNIC so in this way their information can be measured. Surveys from tourists at destination can also give us an option for counting the tourists. Online tour operators and tour operators on the ground are other sources which can facilitate the process of inquiring about the number of tourists. Tour operators sell their packages to tourists, are the sources which can give us an idea about the number of tourists. Foreigners' tourist data are more likely easy to get as it can be found from the relevant ministry and are available on one click. While visiting the Malakand division they have to obtain no objection certificate from law enforcing agencies. The record can easily be obtained from them. Entertainment areas fees collection points and museum tickets can also be used as a source of tourist influx. Registration in hotels and guest houses also provides valuable information about the number of tourists who visit the Malakand division and stay overnight. The important source which is identified by various respondents is to design a tourist app and display on the entry points to Malakand division where tourists are bound to enter their name CNIC number destination and number of nights would be a ready source for tourist influx. Tracking in GPS was also identified by the respondents. Real time apps and mobile tracking data will also help. Few respondents suggested that integrated software among hotels, tour operators, travel agents, destination entry points, data of local police, data of tourism police, interchange exit data and data received from various cameras on various points will help in providing more or less exit data of tourist arrival. Other respondents highlighted that registration data on entry points will also help in getting the required data. Destination entry and exit need to be made mandatory for exploring the number of tourists to destinations. Some of the

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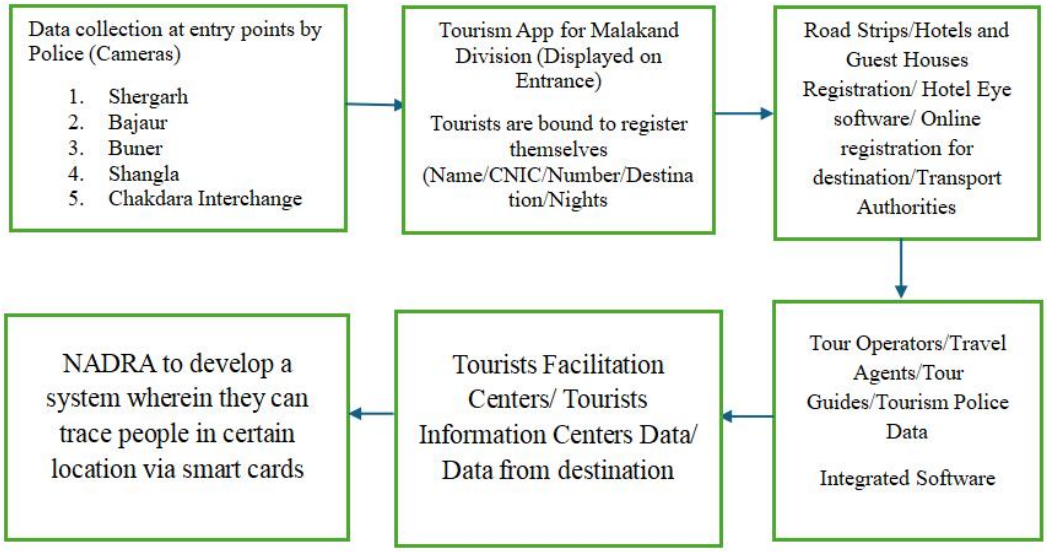
respondents believed that mobile tower data from various networks will also give some idea about the number of tourists. Social media posts and hashtags will also identify tourists' movements to certain destinations. After conducting a thorough analysis of the data, the following mechanism is drawn for exploring the number of tourists to the Malakand Division. The same mechanism is presented in the shape of a diagram.

MECHANISM OF TOURISTS' INFLUX IN MALAKAND DIVISION (HANIF'S MECHAMISM)



The proposed mechanism consists of data collection of tourists from entry points of Malakand Division which are Shergarh, Bajaur, Buner, Shangla and Chakdara interchange by police, tourism police, motorway police or designated force for data collection by tourism authorities. Cameras can also be installed for collection of such information by counting vehicles and giving support to police. This would be authentic data by asking them to give their names, CNIC number, destination, length of stay and their origin. The same practice can be done by developing an App for extracting this data. Every tourist is bound to enter himself and the number of members of the group in the App to proceed for their destinations. This will minimize human interaction, and tourists are not allowed to reach any destination until and unless registered in the area through App. One another method for counting tourists can be road strip which generally count number of vehicles passing on that strip to reach certain destination and this method was initially used for wildlife counting in various countries. The reliable

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method for counting the exact number of tourists is to check the guests' registration in hotels, guest houses, farmhouses and rest houses. The "Hotel Eye" software is useful tool for such activity to provide real time monitoring mechanism to keep track of visitors at hotels integrated with police and NADRA. This data is available to the police through integrated software and hotels must register their properties with the software. With one click all the information is displayed including occupancy, guests' details and other necessary information. Destination's online registration will also help in assessing the number of tourists to certain destinations which then can be assembled with the number of all destinations and accumulative data will reflect the number of tourists in that region or division. Most of the tourists generally use public transport to visit their favorite places. They also rent vehicles for transporting themselves to destinations. Transport authorities and transport unions may provide data about tourists' influx. This source will provide data about tourists who use this means for transportation. Data from tour operators, travel agents and tour guides also provide sources for assessing tourists' influx in the Malakand Division. Tourists generally book their trips through tour operators, take help from travel agents and need the services of guides to reach their destinations with ease and convenience. They can figure out how many tourists have their bookings with us for certain destinations and how many materialized it, can be an authentic source for finding the number of tourists. The Tourism Police data will also help in this regard, because they remain in close contact with tourists throughout their journey. If the integrated software of all these stakeholders developed, it will greatly help in providing exact data of tourists visiting the Malakand Division. Through this software, the data provided can be cross-checked and verified. In this regard data obtained from Tourists Facilitation Centers and Tourist Information Centers will also project the number of tourists visiting Malakand Division. This data may also be checked with data collected from destinations entry points. To combine all the data from various sources will give an insight into tourists' influx. Last but not the least, to find the number of tourists in Malakand Division, National Database and Registration Authority (NADRA) can assess the number of tourists by tracking the chip in CNIC (Smart Card) that how many people are local and how many are visitors, in certain period.

The mechanism developed is hugely significant for policy makers, industry, hospitality establishments and community. They can use it for proper planning for destinations and tourism management so that tourists

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can have pleasant experience and can contribute to local and national economy.

The research work is cross sectional in nature only qualitative methods are used for data collection. Quantitative or mix method will put some more depth into the research in hand. Sample variation for data collection will add some more dimensions to the study. Contextual changes may make some revelation to the phenomenon.

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