

# Sahayank: A Scalable Digital Platform for On-Demand Local Service Booking

Prof. Ashutosh Pradhan  
Department of Computer Science  
Engineering  
R.D Engineering College, India  
Email: [hod\\_mca@rdec.in](mailto:hod_mca@rdec.in)

Mayank Kumar  
Department of Computer Science  
Engineering  
R.D Engineering College, India  
Email: [mayank022cs0055@rdec.in](mailto:mayank022cs0055@rdec.in)

Atul Bijlwan  
Department of Computer Science  
Engineering  
R.D Engineering College, India  
Email: [atul022cs0026@rdec.in](mailto:atul022cs0026@rdec.in)

Prashant kumar  
Department of Computer Science  
Engineering  
R.D Engineering College, India  
Email: [prashant022cs0065@rdec.in](mailto:prashant022cs0065@rdec.in)

## Abstract-

*Today, in the rapidly developing environment, everyone can order transportation, shop, or buy meals using just a smartphone or a personal computer. However, despite numerous developments, the local service industry still encounters some problems. First, it is sometimes difficult to find the appropriate service provider. One may not have sufficient background on the potential provider before choosing this one. Moreover, such factors as pricing, the quality of provided services, and their availability are usually unknown. For example, users might pay the money for a certain service only after getting the service performed. Besides, there is no proper mechanism to follow requests and track the process.*

*To overcome the identified problems, we have created a web application named Sahayank, which allows customers to find a relevant service provider and order services. With this software, users are able to look for providers, read their ratings and reviews, see the time availability of each service, place orders, and make payments safely and quickly. At the same time, service providers will also benefit greatly from the app. The service request management feature will assist them in organising all their work and improving service quality. This application will provide more visibility. Sahayank has a modular architecture with various functions, including secure login, ordering management, payment processing, and other essential features. This application will meet requirements concerning performance, scalability, and usability. As testing demonstrates, our program significantly decreases booking time and improves overall transparency of services.*

**Keywords—**Service Marketplace, On-Demand Services, Online Booking System, Digital Platform, Local Service Management, Service Scheduling, Mobile Applications, Web-Based Systems, Gig Economy, Real-Time Systems

## I. INTRODUCTION

Indeed, there comes a point in one's life when things can get extremely hectic, and when fixing issues such as plumbing, wiring, and serving electrical devices becomes inevitable, the only option left is to seek some form of help from friends or acquaintances who can make such jobs look very easy. Unfortunately, their advice can become counterproductive, leading to either poor quality service, a lack of clarity regarding the quotation, or untimely arrival. Considering how many small errands there are to do at home, there clearly exists a need for prompt assistance [1], [3].

However, the rising demand for repairs has rendered the conventional means of seeking providers inefficient [2]. In particular, the difficulty lies in determining the real cost of repair services, making appropriate arrangements to visit such experts and reaching them easily. Similarly, the providers face similar problems in attracting more customers due to their absence online [1], [6].

The Sahayank platform is created as a means to simplify our search for home services [5]. In essence, as a customer, you get to connect to reliable professionals, obtain accurate information about the cost of repair, and have choices to select various services without any form of distraction. Moreover, the service providers benefit immensely as they gain more exposure, improve the management of activities and receive a professional approach to engaging with their customers [4].

The digital platform rests on three main pillars. First, the process of setting an appointment with the relevant service providers is simple and efficient [3]. Second, there is complete transparency concerning pricing [2], thus ensuring customers' payment in advance for the services to receive. Finally, a wide variety of services are offered through the platform, including plumbing, electrical work, cleaning, pest removal, appliance repair, and carpentry, among others.

The entire platform is designed to be safe for its users while being able to accommodate lots of them at once [4]. Therefore, with the capability of providing up-to-date information to the customers, this platform creates a win-win situation for all users.

Certainly, having an organised house goes a long way in improving one's quality of life, but undertaking this task should not cause any form of burden to anyone. This is why Sahayank employs digital technology wisely to offer this experience.

There have been a number of innovations regarding these kinds of solutions through digital technology. Sadly, the majority of them lack the ability to grow and develop, hence their inability to cover remote areas [7], [10].

## II. LITERATURE REVIEW

The emergence of digital platforms has been an outstanding phenomenon in the last decade, having influenced service provision and consumption greatly. Various researchers have analysed the effect of online service marketplaces on services' accessibility, effectiveness, efficiency, and overall level of consumer and provider satisfaction [1], [3]. In general, digital platforms can be viewed as key facilitators of matching service providers and consumers, which works especially well in markets where conventional delivery fails to deliver [5].

The role played by the Internet and digital technologies in the development of the gig economy has been another popular research topic lately. According to Zhang and Chen (2023), digital platforms have helped independent service providers gain a wider client base as well as minimise transaction costs. However, the authors note that, on the one hand, platforms allow for efficient matching between customers and providers; on the other hand, problems arise with trust and quality assurance [6], especially with a poorly developed verification system.

Kumar and Patel (2022) focus their analysis on mobile apps in the area of service marketplaces. They prove that the design of a user-friendly interface and the opportunity to book services in real-time greatly affect users' satisfaction [2]. The integration of GPS into the process allows customers not only to see nearby service providers but also to get booking notifications immediately. However, this approach poses certain scalability issues in markets [8] where there is a lack of infrastructure and service diversity.

Lee & Park (2021) sought to explore the interrelationship between customer satisfaction and the capabilities provided by modern booking sites with built-in payment processing capabilities. According to the authors, transparency concerning pricing, the tracking of service delivery progress, and feedback mechanisms contribute to customer trust development [3]. The authors' findings indicate that rating and review systems positively impact both user retention and reliability [3]. On the other hand, the researchers noted that inconsistent service delivery policies within various platforms continue to be a significant concern.

Singh et al. (2024) examined the technical challenges associated with designing service management systems based on cloud computing. The research highlighted that

cloud architecture helps service delivery platforms manage massive request volumes while maintaining availability and responsiveness [4]. Furthermore, the authors noted that distributed computing improves data processing and response time performance. However, the authors acknowledged that the complexity of cloud infrastructure may limit its application to smaller or more localised service markets [9].

Lastly, Gupta & Sharma (2025) explored digital solutions targeting service delivery platforms tailored for use within semi-urban or rural environments. The authors argued that platforms that provide convenient access to services and are inclusive to all potential customers are essential design aspects of such products [5]. The researchers observed that although many platforms excel in metropolitan environments, they lack the necessary features that cater to the needs of customers living in smaller locations [10].

Moreover, a number of studies have investigated the importance of security and trust in the design of service platforms. The features such as identity verification, secure transactions, and structured feedback seem to be crucial for the construction of confidence [7], [10] necessary for service adoption. At the same time, it proves hard for most of the existing platforms to scale and implement these features successfully [9].

The issue of communication between service providers and clients in real time was investigated by various researchers. Apparently, those systems that include messaging or notifications help to coordinate more effectively, save some time, minimise the possibility of misunderstanding, and make the services more efficient in general [2], [3]. Despite this fact, a considerable proportion of available platforms does not offer reliable real-time communication under heavy loads [4].

Overall, it can be seen that even though significant advances have been achieved in the area under consideration, many issues still require addressing [1], [5]. To begin with, the majority of the existing service platforms seem to have been designed specifically for urban users who cannot take full advantage of them because of the specificities of their environment. In addition, many solutions address only one category of services at a time and thus fail to provide any practical assistance [8].

### RESEARCH GAP

Despite advances in digital service platforms, a lot still needs to be done. Firstly, most digital platforms are designed with the needs of urban users in mind and thus fail to cater to semi-urban and underdeveloped regions [5], [10]. They are also relatively inflexible and tend to offer limited services, making them useful for just a few people [8].

Secondly, there are challenges concerning user authentication and service quality [7]. Most platforms lack a mechanism for proper user authentication and a well-defined service workflow. As a result, they cannot easily scale up while providing users with consistently good services [3].

Finally, fragmentation in the core platform functionalities is another problem faced by existing platforms [2], [4]. The process of discovery, service booking, payment, and communication on most of these platforms occurs in

separate modules. Thus, a user finds them hard to work with due to the disconnect between the processes [4].

Indeed, a good opportunity exists for designing a completely new user-centred and integrated digital platform that provides end-to-end solutions for local service management [5].

### CONTRIBUTION OF PROPOSED WORK

With respect to the issues outlined above, the present paper presents the platform known as Sahayank, which aims at facilitating and improving the processes of searching, booking, and managing local services using an integrated approach to addressing each of these aspects [2], [5].

Different from numerous other platforms, Sahayank focuses on enabling support for various kinds of services and was specifically designed to be used by people residing in developing countries and semi-urban locations [10].

Transparency and accountability are two core aspects addressed by the present platform by means of standardising prices, tracking of services, and introducing a feedback mechanism, all of which ensure a high degree of trustworthiness and user satisfaction [3], [7].

The platform's architecture is based on the concept of modularity, ensuring both scalability and high performance levels when handling multiple requests at once [4], as well as providing reliable tools for managing and increasing the load of work of service providers. Therefore, the present research is meant to provide a base for developing an alternative service model for the region of focus [1].

### III. PROBLEM STATEMENT

The household service industry, which consists of such types of activity as plumbing, electrical, cleaning, and appliance repairs, is rather chaotic and inefficient. Contrary to other industries that have adopted technology, the household services industry is still rather analogue and relies on old-fashioned approaches. As a result, the majority of users are not able to use the services efficiently due to a number of problems [1], [5].

First of all, it is hard to find any reliable service provider, since there is no centralised source of information that contains all the necessary details [2]. The users are unable to obtain information on pricing, locations, and contact methods in advance. In addition, there is no possibility to estimate the reputation of a particular service provider and make conclusions about potential risks and extra charges [3].

At the same time, the problem concerns local service providers as well. Inability to establish a presence on the Internet leaves little space for growth for those businesses [6]. Furthermore, it is worth mentioning that the lack of special software creates problems with managing companies properly [4]. Finally, it should be mentioned that the market lacks online platforms available in growing communities [10].

The solution to this situation lies in the adoption of an innovative approach that can help solve existing problems [5]. By creating a website that allows one to find and contact service providers easily, one may solve multiple

issues. First of all, the users will be able to see the prices and reviews of the service provider in question. Besides, the online platform will offer booking options and improve the communication process significantly [2], [3].

Overall, there is a need for the implementation of an efficient and reliable solution that could resolve the described issue [1].

### IV. OBJECTIVES

The main goal of the suggested platform is to provide users with the ability to use services without experiencing difficulties. The suggested digital platform is aimed at making the entire process of discovering, booking, and receiving services more convenient, efficient, and reliable. In other words, the focus of research is on designing a highly developed digital environment, which will include all stages of work with the service.

The suggested digital environment is meant to provide access to its resources for various categories of users – service seekers, service providers, and system administrators using a single interface of web-based and mobile applications. The goals of the suggested platform are as follows:

- 1. Authentication and Authorisation:** The system offers the ability to register and authorise using a simple process of logging into the account. All users with distinct roles – customers, service providers, and system administrators – are managed through role-based authentication.
- 2. Web and Mobile Integration:** all users have access to the resources of the platform through web-based applications and mobile applications.
- 3. User-Friendly Interface:** customers and service providers have access to a highly developed web interface, which is aimed to help them search for, choose, and book required services.
- 4. Secure Payment Gateway:** users have access to a highly reliable payment system used for transferring payments.
- 5. Service Confirmation and Tracking:** customers will be able to track their services and receive relevant notifications.
- 6. Quality Assurance of Services:** Only verified skilled service providers are included in the pool.

### V. SYSTEM ARCHITECTURE

The Sahayank platform is developed based on the principle of having multiple layers that are scalable, flexible, and highly performant [4]. This indicates that each layer will be independent of the other layers [4].

These multiple layers include the following: the user interface layer, the authentication layer, the application layer, the service logic layer, the payment and notification layer, and the database layer

### OVERVIEW OF ARCHITECTURE

The Sahayank system functions according to the client/server architecture pattern [4]. In this respect, interaction

between individuals and the system takes place using the web and mobile versions of the application. Each process executed by an individual is dealt with by the server side, which is responsible for managing the business logic, services, and database processes. Software modules have been developed in a way that different tasks are performed by separate modules.

## LAYERED ARCHITECTURE DESCRIPTION

### 1. User Interface Layer

This is the interface layer of the platform. This layer constitutes all the applications that allow individuals to log in and out of the product and services offered by the platform. The user interface is created for efficient usability on various platforms [2], [3].

### 2. Authentication Layer

This second layer deals with the identity of the user as well as the actions that are allowed to be performed by this person. In this layer, processes such as secure login and registration are performed, taking into account distinct client, service provider, and administrator identities [7].

### 3. Application Layer

The processor module is at the core of the system [4]. This module gathers input from the users, modifies the input, and coordinates the functioning of other modules of the platform. This module consists of dedicated sub-modules for clients and the service side, thus enabling simultaneous processing of several processes [4].

### 4. Service Logic Layer

This layer deals with all core services of the platform, including searching for the required services, booking management, and allocating tasks to the respective service providers. This layer receives the user's request, connects him with the appropriate service provider, and manages the booking process until its completion [3].

### 5. Payment and Notification Layer

This layer is responsible for managing all financial transactions [7] via an advanced payment gateway that assures safe and reliable transfers. Also, this layer manages real-time alert notification [3] informing end-users and the service providers about the current status of their booking and payment processes.

### 6. Database Layer

This is the storage area for all kinds of information within the system. This layer is optimised for easy access and secure information management, assuring consistent performance regardless of the number of simultaneous connections [4].

## VI. METHODOLOGY

Sahayank development follows a strict procedure of software development that is comparable to traditional software engineering. It had four main stages, which included requirement analysis and gathering, design stage, implementation stage, and testing stage. All the stages were critical in forming a stable platform.

### Requirement Analysis

The development process began with an in-depth investigation of the problems faced by both the customers

and service providers in the local services industry. The problems range from a lack of quality providers, price issues, inability to deliver or delay in service provision, and bad communication. This led to the identification of the functional and non-functional requirements of the platform. The functional requirements are based on fundamental activities like user registration, browsing for services, managing bookings, and paying for the services.

### System Design Approach

As we had all the necessary requirements from our specifications, we managed to build a layered and modular architecture that ensured scalability and flexibility. To keep the process systematic, we divided responsibilities according to their purposes, for example, the user interface layer, the business logic layer, and the database management layer. In addition, we drew diagrams at each step that demonstrate how users interacted with our system and how data flowed throughout them.

### Development Process

To develop our platform, a modern web technologies stack was used. Our goal was to implement a comfortable UI and convenient UX for users whereas our back-end was responsible for such functions as user authentication, various services, and booking processes. Moreover, to establish connections between the two parts, RESTful APIs were designed. Throughout the entire development process, much attention was paid to data handling capabilities.

### Testing and Evaluation

After our system was implemented, several test types were performed. Firstly, the functionality test made sure whether it registered, booked, and paid as planned. The test for user experience checked the usability and navigability of our website, and performance testing was done to examine the behaviour of our solution depending on load volume. The result of the testing process turned out to be positive as the platform proved to be reliable.

## VII. SYSTEM DESIGN

The system design of Sahayank encompasses the elements needed for efficient management of services [5]. The interaction between users and the system, as well as the flow of data between various modules in the system [4], is included. Use Case diagrams, data flow diagrams and workflows are extensively applied in order to depict the functionality of the system.

### USE CASE DIAGRAM

This diagram gives an overview of the interactions of three major actors with the system [2], which are the Service Seeker, the Service Provider, and the Administrator.

Every actor carries a set of activities in the system; hence the Client has the ability to register, log in, search for services, hire a Service Provider, and conduct a transaction. The Service Provider takes care of his/her profile, either accepts or declines the service request, and updates the status of their work. The administrator takes charge of running the system by taking care of user accounts, among other activities.

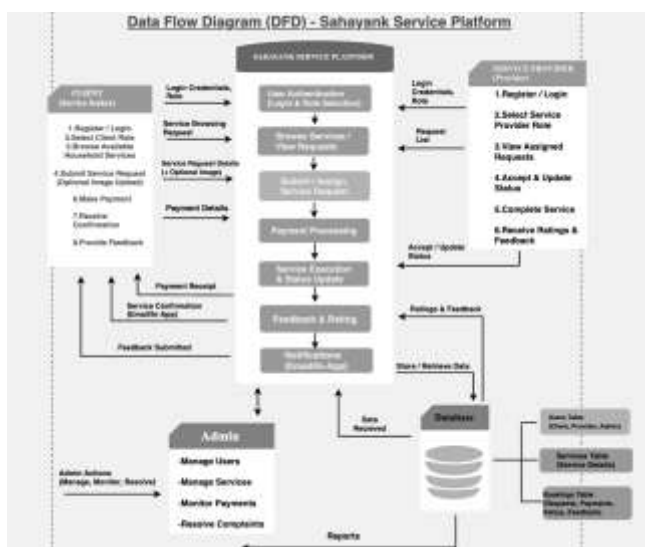
### DATA FLOW DIAGRAM (DFD)

In order to see how the data flows throughout the process [4], one can look at the Data Flow Diagram, which clearly

shows this process. When the user makes a request for service via the interface, the request is forwarded to the backend and entered into the database [4]. The corresponding service provider gets notified about the need for the service provision. The request will be processed once the provider accepts it; then, the status changes and the user is informed about this change. Upon completion of the service, payment will follow.

#### WORKFLOW OF THE SYSTEM

This process explains the process flow that is required to book a particular service. Initially, the user will have to register and log in. Next, the user will search for the particular service that he needs and select the right service provider. A request will be made and forwarded to the provider, who, upon accepting the request, will schedule an appointment for performing the service in the agreed-upon time period. Upon completion, the user will make payments and rate the service.



[Fig. 1. Use Case Diagram]

#### DATABASE DESIGN

The database is designed to hold all the system entities in an efficient way without duplicating any unnecessary information [4]. All the system entities are stored in tables. There are proper relations between all the entities, which are created by creating suitable keys among different tables. The database [4] can perform multiple transactions at once.

### VIII. IMPLEMENTATION

Sahayank was created using an advanced technology stack that emphasises speed, efficiency, and scalability [4]. This architecture is based on a client-server system where the front end deals with user inputs while the back end is responsible for all the business logic, processing, and validation tasks.

#### FRONTEND IMPLEMENTATION

The front end has been developed with the help of the Flutter framework, which helps to develop the application using the same code that works natively on mobile phones [2]. It has been designed in such a way that the primary target device platform is Android. The UI design consists of

cards, iconography, and status display that make navigation easy [3]. All the interactions take place through the front end, while validations occur through the back end.

#### BACKEND IMPLEMENTATION

The backend is built based on Node.js that utilises the Express.js framework to ensure scalability and efficiency while handling API requests [4]. This becomes the main processing core of our app because it handles booking processes, establishes business logic, ensures the security of users [7], and provides good communication between various modules of the application. In order to simplify the development process, a RESTful API was chosen as the architecture of the server-side. The main job of the server is to guarantee proper fulfilment of each step of the booking process and limitation of roles.

#### DATABASE IMPLEMENTATION

MongoDB has been chosen as a database owing to its flexible schema structure, which meets the demands of evolving data within the platform. The data stored in this database would be related to the users, service providers, service offers, bookings, and payments. Data structures have been organised in a way that makes their relations very easy to find without any redundancy [4].

#### AUTHENTICATION AND SECURITY

For user authentication [7], JSON Web Tokens have been used, providing a secure stateful system for authentication. Role-based access control has been used in this platform to ensure that differentiating clients from service providers and administrators takes place. The performance of important processes by the server will be monitored alongside other security measures.

#### BOOKING SYSTEM IMPLEMENTATION

One of the key features of the platform is the presence of a structured booking life cycle for the purpose of taking up bookings.

- created → awaiting approval
- approved → in process
- in process → completed
- completed → confirmed by the customer

Through such an organisation of bookings, all sorts of misuse are prevented, and each booking remains within a well-structured system.

#### COMMUNICATION AND NOTIFICATION

In addition, it allows communication from the client to the service provider [1] and vice versa while booking the service. This particular communication is associated with the specific state of the booking procedure to ensure that no other outside intervention takes place. Alerts will ensure that both sides are aware of the confirmations and other information regarding the booking process [3].

## IX. RESULTS AND DISCUSSION

Sahayank was tested based on different parameters such as booking time, usability, responsiveness, and user experience. To conduct this test, several scenarios were applied to analyse the performance of the platform in reality [3].

Firstly, booking time should be mentioned as one of the key areas where Sahayank works extremely well. In the past, users had to spend up to one hour to find a provider. Now the booking time has been reduced to several minutes, depending on the situation, 2-5 minutes [3].

Another advantage is access to providers. With Sahayank, it became much easier for users to look into different service providers according to their needs and choose someone appropriate, hence facilitating decision-making and minimising the risks associated with previous methods of action [1], [5]. Booking confirmation alerts allow people to stay informed about the current status of the reservations [3].

Technically speaking, the software has shown extremely good performance, taking into account a large number of users who are able to log in simultaneously. The performance and scalability of the software, combined with a special database structure, made sure there were no delays in any actions like login, search or reservations [4].

An adequately developed booking procedure leads to a considerable increase in the efficiency of service usage [2], [3]. It means that defining the whole procedure of booking, starting from the very beginning up to the final stage, ensures flawless performance and helps minimise any possible abuses while making everything secure [7]. Furthermore, the defined procedure determines the roles of both parties in the process.

The security of the booking process itself is quite important, considering all of the requirements related to the need to trust all parties [7]. Role-based authentication makes sure that only authorised people can use particular operations of the software. The internal communication channels make sure that nothing additional affects services.

## DISCUSSION

Overall, it should be stressed that the research findings prove the actual applicability of the implemented approach [1], [3] as an improvement compared to conventional approaches. On the one hand, time savings and well-structured service lifecycles lead to significant improvements in the experience of end-users.

Structured booking cycles help ensure sustainability and prevent any malicious behaviour [7]. Compared to the conventional approach, where no restrictions are required, in the current case, there is no option for people to behave inappropriately, as they have no other way to act in this situation.

From the general point of view, Sahayank helps address some issues that are characteristic of most contemporary apps [5]. It provides a unified approach to service search, ordering, and paying within one environment, thus preventing any inconvenience for users [2], [3].

As far as the limitations of the current app are concerned, they should be mentioned. In particular, there was no possibility to perform more testing of the software in different use cases. However, it might be interesting to continue developing personalised suggestions and usage statistics.

## X. CONCLUSION

In this paper, the Sahayank, a platform whose aim is to address the issues related to inefficiency in booking domestic services, is analysed. In this regard, some of the challenges that exist in the traditional method of booking services are first outlined. These challenges include inefficiency, low outreach, and a lack of a common platform [1], [5] for communicating between the service provider and the end-users. After this introduction, a platform that integrates service discovery, booking management, transaction management, and instant messaging was designed.

This platform has shown great promise in many areas. For example, it helps reduce the time it takes to make bookings as well as update the users on the status of the booking [3]. Booking domestic services has become easy, reliable, and efficient compared to before. In addition, the incorporation of a booking lifecycle offers greater control of the process, thereby ensuring that the services provided are executed successfully and efficiently [2], [3].

Technologically speaking, scaling the platform is easy thanks to the modern-day technologies utilised in the development of the platform and its modular architecture [4]. The platform also holds a lot of promise for service providers in terms of visibility and ease of business management.

Parameter	Traditional Method	Proposed System (Sahayank)
Service Booking Time	30-60 minutes	2-5 minutes
Provider Discovery	Difficult	Easy
Service Tracking	Not Available	Real-time
Communication	Informal	Structured (In-app)
Payment Security	Low	High
Transparency	Limited	High

Overall, the Sahayank has been able to demonstrate what a properly designed online marketplace can do when applied to transform a fragmented and ad-hoc industry into a very efficient and reliable one.

#### XI. FUTURE SCOPE

Sahayank can be considered quite robust in its current state; however, numerous improvements can still be made in the future. Here are some of them:

- Introducing an AI-powered recommendation engine, which would offer to the users the most suitable providers based on their needs and preferences.
- The implementation of the WebSocket for faster exchange of messages between users and service providers.
- A rating and review system to improve credibility and aid users when making their choices.
- Adding payment capabilities to make transactions easier for both the user and the provider.
- Providing more services as well as expanding the geographical reach.
- Setting up incentive programs, such as the loyalty program.

This will definitely bring a lot of added value to the platform.

#### REFERENCES

- [1] Zhang, Y. & Chen, L. Examine the influence of Digital Service Platforms on the expansion of the Gig Economy. *IEEE Access*. Vol. 11. pp. 12345-12358. 2023
- [2] Kumar, S. & Patel, R. Study on the design of Mobile Marketplace Platforms for On-Demand Services. *Journal of Digital Economy*. Vol. 5. Issue 2. pp. 45-60. 2022
- [3] Lee, H. & Park, J. Effect of Online Service Booking Systems on Customer Satisfaction. *Information Systems Research*. Vol. 32. Issue 4. pp. 789-805. 2021
- [4] Singh, A., Verma, P., & Gupta, K. Perspectives on the design and deployment of cloud-based service management platforms. *Future Internet*. Vol. 16. Issue 1. pp. 1-18. 2024
- [5] Gupta, P. & Sharma, V. Study on the design of digital platforms for local service ecosystems. *International Journal of Information Systems*. Vol. 10. Issue 3. pp. 101-115.20.
- [6] Pilatti, G. R., Pinheiro, F. L., & Montini, A. A. Systematic Literature Review on Gig Economy: Power Dynamics, Worker Autonomy, and the Importance of Social Networks. *Administrative Sciences*. Vol. 14. Issue 10. pp. 267. 2024
- [7] Alauddin, F. D. A., Aman, A., Ghazali, M. F., & Daud, S. The effect of digital platforms on gig economy workers: A systematic literature review. *Heliyon*. Vol. 11. Issue 1. e41491. 2025
- [8] Naibaho, N. D. & Wulandari, W. Direction and Dynamics of Research in the Field of Gig Economy 2015-2025: Bibliometric Analysis. *Journal of Economics and Management Sciences*. Vol. 7. Issue 4. 2025
- [9] Soni, V. K., Sinha, E., Shinde, Y., & Jain, H. Freelance Platforms: A Revolutionary Aspect of the Gig Economy. *Proceedings of ICAAAI (Advances in Intelligent Systems Research)*. 2025
- [10] Akram, M. Gig Economy and Digital Platforms: Social-Economic Opportunities and Challenges. *Journal*.