iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** XII **Month of publication:** December 2021

DOI: https://doi.org/10.22214/ijraset.2021.39249

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue XII Dec 2021- Available at www.ijraset.com

ERP System for Digitalization of NGO Operations

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Abstract: ***This project is concerned with the digitalization of NGO operations and the entirety of its working operations including making of an ERP system which streamlines the working of the NGO. It includes the working of the NGO, the financial aspects. NGOs face a multitude of issues when it comes to management and those issues include, tracking volunteer activity, financial transparency, volunteer id database etc. The above problems have been identified with a substantial survey of people working in such organization and our own personal experience. Manual processes and unwieldy amounts of knowledge are the norms for several non-profits, which makes human error and security oversights more likely. Subsequent surveys are conducted about these problems. Hence, we can discuss on improving on these problems and completion of a fully working website with its implementation concluding a better system and digitalization of the NGO program.***
Keywords: NGO, Operations Management, survey, tracking, Digitalization, ERP

I. INTRODUCTION

Any NGO or UN organization will recognize the significance of volunteers in accomplishing their goals. Volunteerism is the lifeblood of non-income paintings and a relatively treasured asset to charity efforts and the complete world. That's in which volunteer control software program device comes. With a virtual device in place, NGOs and non-income companies can simplify their operations via way of means of getting rid of guide tasks, paper trails, and unnecessary one-on-one backs and forth with volunteers. Cloud based databases are available whenever anywhere, allowing you to hold up with diverse analytics, network and communications equipment, and different features. Ultimately, this device for digital volunteer control presents the equipment to assist make volunteering operations lots easier. On pinnacle of being a listing and facts evaluation platform, volunteer control software program device also can function hubs for data and often requested questions. These hubs can offer critical organizational data, together with volunteer tips for non-profit paintings, popular running procedures, organization updates, and different data. While most non-profits have mastered the art of doing more with less, today's charities face major hurdles: flat-rate contributions, staff and resource shortages, increasing competition for client money, donors, outdated legacy technology, a mosaic of systems and Processes. Digital transformation isn't just about modernizing your current technology infrastructure, it's also about seamlessly connecting people, processes and technology to increase productivity, innovate, serve more people and create a high level of trust and to achieve transparency with the voters [5]. While each employer thinking about an ERP implementation has compelling motives because they need to spend wisely, boom performance and streamline commercial enterprise processes, non-governmental organizations (NGOs) additionally should take care of the easy truth that any misstep they make in those arenas may want to thoroughly have a profoundly terrible effect at the populace they serve. ERP structures can convey a big quantity of gain to NGOs. Faced with dealing with administrative structures, monetary structures and personnel (each personnel and volunteers) throughout distinct nations and cultures. It would also be wise to speak to other NGOs in your area or geographic region about their experience with ERP systems and providers and how they think the benefits of a new system are weighed against the risks and costs.

A. Advantages of Digitalization

1) Automate manual tasks, reduce costly human errors.
2) Enhanced data security that prevents costly security breaches.
3) Actionable data insights that enable you to make strategic decisions about how people and assets are deployed in the field, such as during a natural disaster or a man-made disaster.
4) Reduced effort for IT staff through the use of cost-effective cloud-based services.
5) Increased collaboration and productivity thanks to digitally connected technologies that make any non-profit program more efficient and effective.

It is of utmost importance to note that digital transformation empowers non-profit organizations to extend and show their impact on society, cater to their audience, and aggrandize their ability to respond more swiftly to situations where they're needed.

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According to a brand-new survey by members of NGO NetHope, 22 global humanitarian and burgeoning NGOs established in 93 countries around the world have invested around $ 30 million in digital capabilities to effectively catalyse or respond to COVID 19. This is urgently needed. This is required for power supplies, devices, connections, applications, virtual private networks, and cloud-based collaboration systems and software.

II. LITERATURE REVIEW

Although we are more familiar with the use of ERP systems in the production sector, in recent years, they have been widely applied in areas of the service sector. This is due to the fact that ERP systems can facilitate communication, management, and monitoring of enterprises amongst many other functions. In non-profit organizations, which usually have a special position in the service sector, there are a few special needs apart from the standard structure. In this study, the usage of ERP systems in the service sector, especially in nonprofit organizations is examined. The organization in the talk is the Turkish Red Crescent Society. First, the activities and processes of the Red Crescent Society were analyzed. Then, the ERP project stages are enumerated in detail. In addition to the standard ERP modules, specifically, the modules related to the Red Crescent namely, the Disaster Preparedness and Response, Blood Services, Youth and Volunteer services, Cash and in-kind relief Services and their structures, operations and integrations with other modules are detailed. At the conclusion of the study, some suggestions are made in order to find the ideal solution [1]. As Zhu, Li, Wang, and Chen declared, because the form of merchandise will increase and the store length expands, it will become a challenge for outlets to promote the proper product to the proper clients at the right time and price. The front- and backends in addition to diverse practical departments of outlets should be tightly related to deal with this hard situation. However, the individual-task-primarily based totally structures are out of date and can't aid the outlets requirements. Hence, many retailers have become effective ERP structures. The authors have advanced an integrative version to give an explanation for the post-implementation fulfillment of ERP, primarily based totally on the Technology–Organization– Environment (TOE) idea in the Chinese retail industry. According to their study that is done, 10 pattern retail type, they observed that the organizational and technological elements cause amazing benefits [2]. Any NGO or UN organization will know the importance of volunteers in reaching their goals. Volunteerism is the lifeblood of non-profit work and a highly valuable asset to charity efforts and the whole world. That's where volunteer management software system comes. With a digital system in place, NGOs and non-profit organizations can simplify their operations by removing manual tasks, paper trails, and needless one-on-one backs and forth with volunteers. Cloud-based databases are accessible anytime anywhere, enabling you to keep up with various analytics, community and communications tools, and other features. Ultimately, this system for virtual volunteer management provides the tools to help make volunteering operations a lot easier. On top of being a directory and data analysis platform, volunteer management software system can also serve as hubs for information and frequently asked questions. These hubs can provide important organizational information, including volunteer guidelines for non-profit work, standard operating procedures, organization updates, and other information [3]. The aim of this study is to research what design principles have to be taken into consideration in Enterprise Resource Planning (ERP) systems for humanitarian organizations (HOs) with a purpose to allow agile, adaptive, and aligned (Triple-A) humanitarian delivery chain talents and to digitize humanitarian operations. This study fills the void withinside the humanitarian literature via way of means of stronger consciousness at the layout of ERP structures for humanitarian organizations that construe Triple-A supply chain talents, in addition to broadening the knowledge of the demanding situations of ERP layout by HOs withinside the context of humanitarian operations. According to the findings of this study, ERP systems for humanitarian corporations have to be designed as specific structures that deal with the demanding situations and specific missions of humanitarian corporations, in addition to their fee-era processes and resource base, with a purpose to enhance organizational performance. This research expounds on 12 preferred layout ideas which might be precise to humanitarian corporations. These layout ideas offer a high-degree framework for outlining and engineering precise necessities with a purpose to obtain success [4].

III. OBJECTIVE

Some NGOs were in existence for more than 10 years and but do now no longer have considerable finance and administrative running standard to permit them gain from institutional funds. If they can't honestly and succinctly solution those questions, it's much less probably that they'll reap ERP success [6]. The factor of the method is to outline the targets of the ERP implementation and outline the measurements of success, like What is the business objective for implementing ERP? Have we defined the strategy? It enables with insights in actual time. This system continues one up to date in actual time which enables in a quicker decision-making procedure. None of the matters want to be maintained manually. The records may be accessed unnecessary of time zones and places. ERP system additionally enables with price control. This one supply is accurate, in actual-time and enables in decreasing

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the operation costs. If the proper answer is chosen through you and the proper supplier too who're capable of meet your desires you then definitely are sure to look an effective ROI. Until currently ERP structures that meet the necessities of a worrying NGO had been now no longer to be had withinside the market and those utilized by maximum companies wouldn't accurately guide cutting-edge or anticipated enterprise necessities. Hence, such an ERP machine could purpose to streamline and smoothen the whole procedure workings associated with an NGO. Aiming to evidence funders and donors powerful in addition to efficient use of funds, the worldwide NGO plans to set up results-based management and financing throughout its member associations. Instead of preceding economic performance, the particular needs in addition to the relevance of a task can be the baseline for resource allotment.

IV. METHODOLOGY

A. Problem Statement

We see many NGOs facing a lot of problems due to manual work and lack of centralisation which in turn leads to a lack of efficient uses of resources. This process has a lot of backdraws. Through the use of digitalisation NGO operations could be centralised and coordinated.

B. Mission Statement

Our goal is to address issues such as volunteer tracking, financial transparency, budget allocations, inventory management, personal history, leave management, communication gap. Our ERP system aims to integrate functions that solve the above problems through digitalization and implementation of a software package. It will raise the standard and the operational efficiency of NGOs and relieve them in the implementation of their processes and concentrate more on their core tasks. This will also serve to attract more volunteers and encourage a positive impact on volunteering as a whole.

C. Process Flow Chart

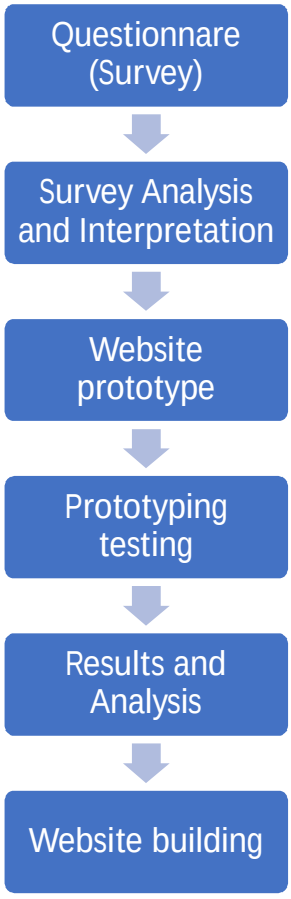


Fig 1. Process flow chart

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V. SURVEY ANALYSIS

Our first part of the methodology was getting a clear-cut idea of people's point of view on this digitization. Hence our first work was to get a survey circulated with questions curated in such a way that we can extract maximum information from the audience. The results of the survey are as follows:

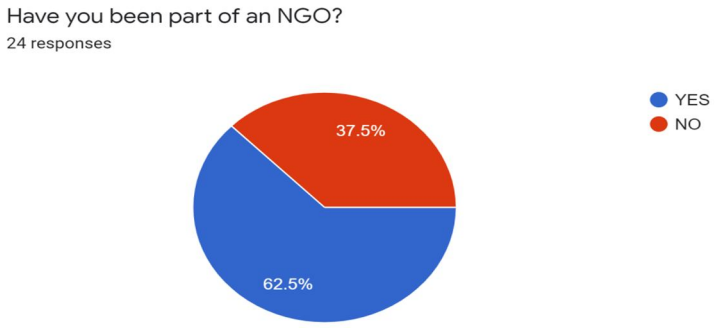


Fig 2. Survey Question-1

This question was mainly to get both an insider and outsider perspective of NGO operations.

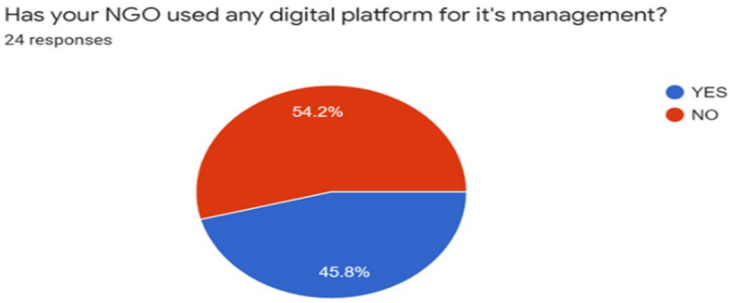


Fig 3. Survey Question-2

About 62.5% of the respondents were part of an NGO before. But when asked if their respective NGOs had used any digital platforms for its management before, about 55% told they hadn't used any digital platform before. This is very important as it shows even NGOs from well-off parts of the country or organizations that are well funded may not be using digital platforms and still be sticking with the traditional methods.

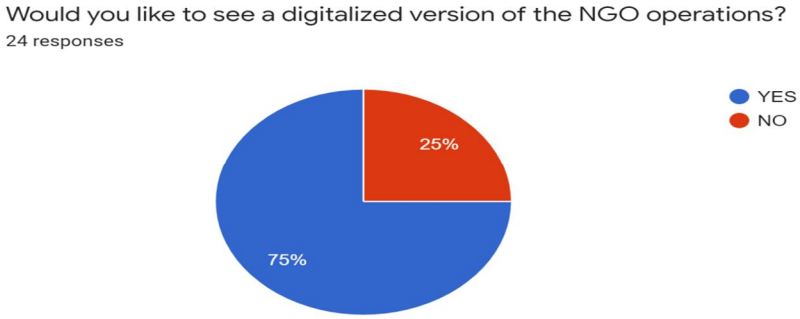


Fig 4. Survey Question-3

These organizations definitely try for digitalization of their processes as about 75% of the respondents wanted digital processes to be added to their organization or wanted the existing processes to become better through digitalization.

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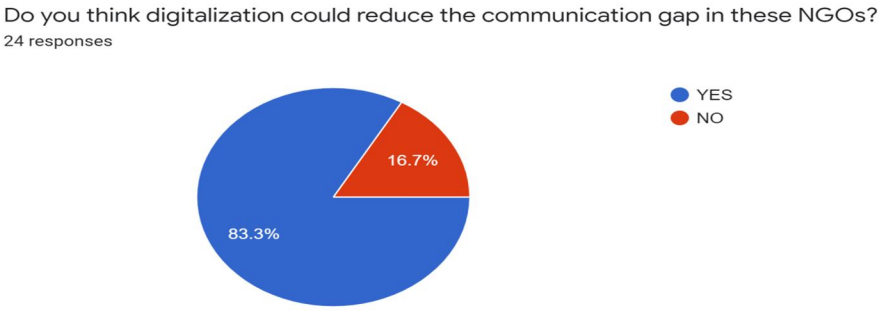


Fig 5. Survey Question-4

About 83% of the respondents thought digitalization could reduce the communication gap in these organizations, especially during big events being conducted.

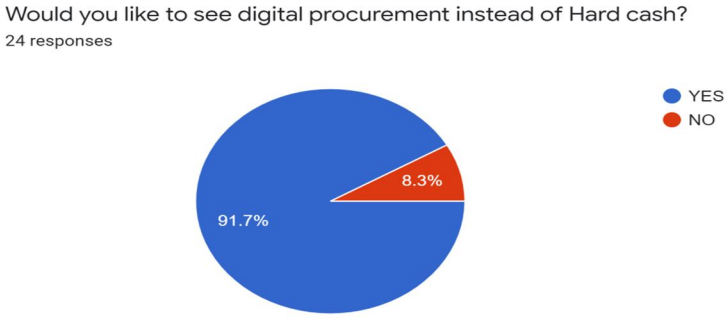


Fig 6. Survey Question-5

Most respondents wanted to see digital procurement of cash as this smoothens the process and the organization can keep easy track of the money. There amount of respondents that wanted a digital procurement of cash is high and we can understand from this, how much of a financial accounting difficulty it is to collect money from different volunteers and pooling it, a digitization could keep perfect track of money collection and make the experience a whole lot better.

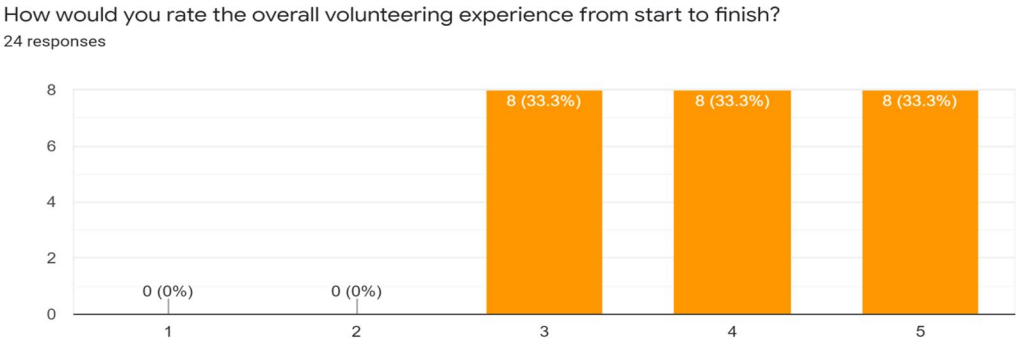


Fig 7. Survey Question-6

The overall volunteering experience was found to be generally favourable amongst these groups. Although we believe that with our ERP system, they responses would go from partly favourable to near an absolute complete satisfaction among not just volunteers but also organisers.

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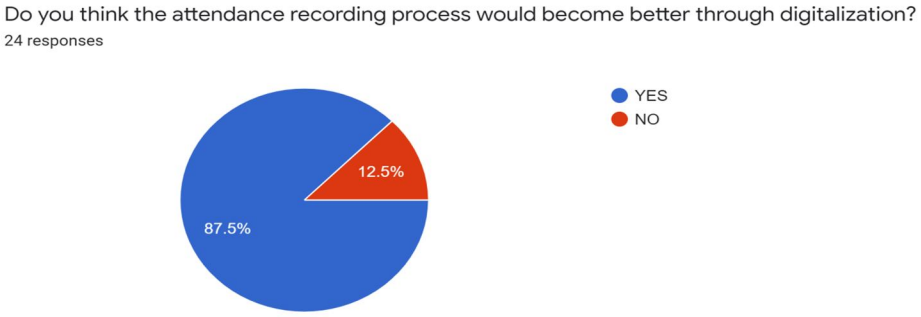


Fig 8. Survey Question-7

Most organizations face massive problems when it comes to attendance recording of everyone involved, this is evident as 87.5% of the respondent's wanted digitalization of the attendance recording process.

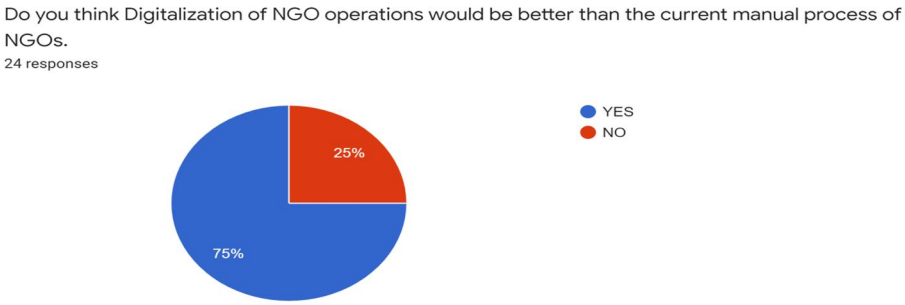


Fig 9. Survey Question-8

Overall, about 75% of the people feel digitalization of the NGO operations including all services involved would result in the betterment of the operations conducted.

VI. INDUSTRY PORTAL WEBPAGE

The website is a really user friendly and modular website that is able to be tweaked according to the customer requirements. A user could sign up to the website using his google account, facebook account or even using an email id. We have used Wix editor to create the website. A snippet of the homepage can be seen below: -

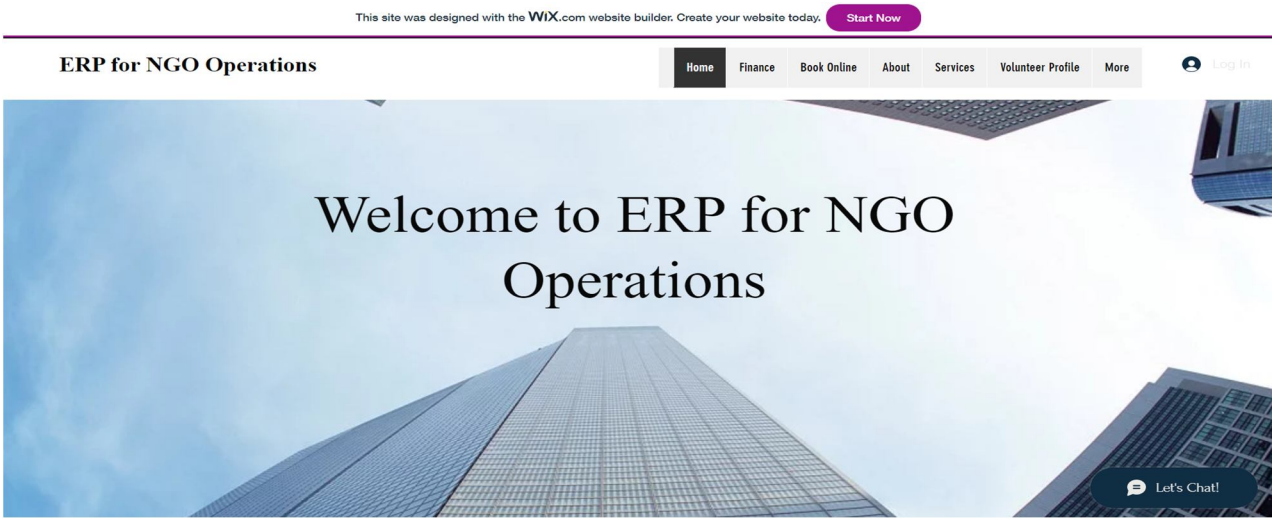


Fig 10. Main page of the website

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Once a user signs up, He/she can go to the services section, wherein there is an option called Registration. Immediately upon signing up, the volunteer will receive his location of work, through an automated function using the chat window. Then upon going to the registration, they will have to fill up their details including location service. The registration form is connected to a dashboard, which gives us the results. It helps us to accurately determine the location of the volunteer, attendance of volunteers etc. It is shown in the dashboard/analytics part of the website. Given below is an overview of the dashboard.

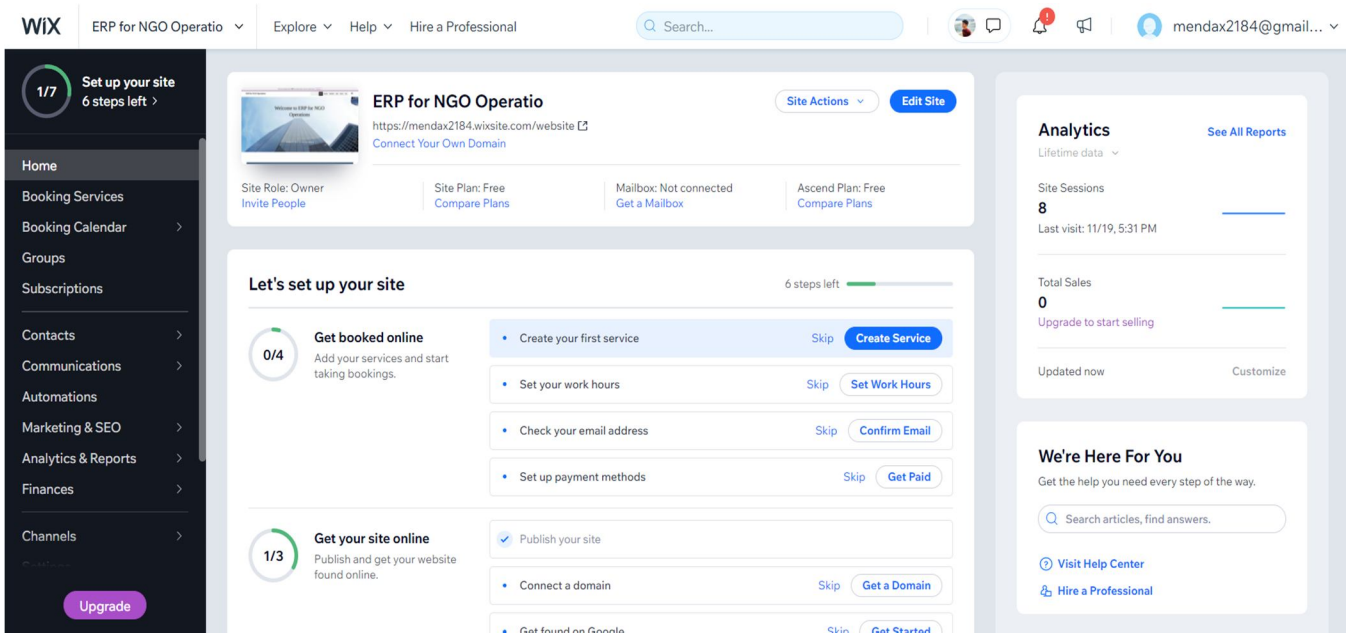


Fig 11. Website Dashboard

The other important feature we have added is the financial transparency page, in which the NGO will be able to add their own values and create graphs for visitors to see their financial spending. An example is given below:

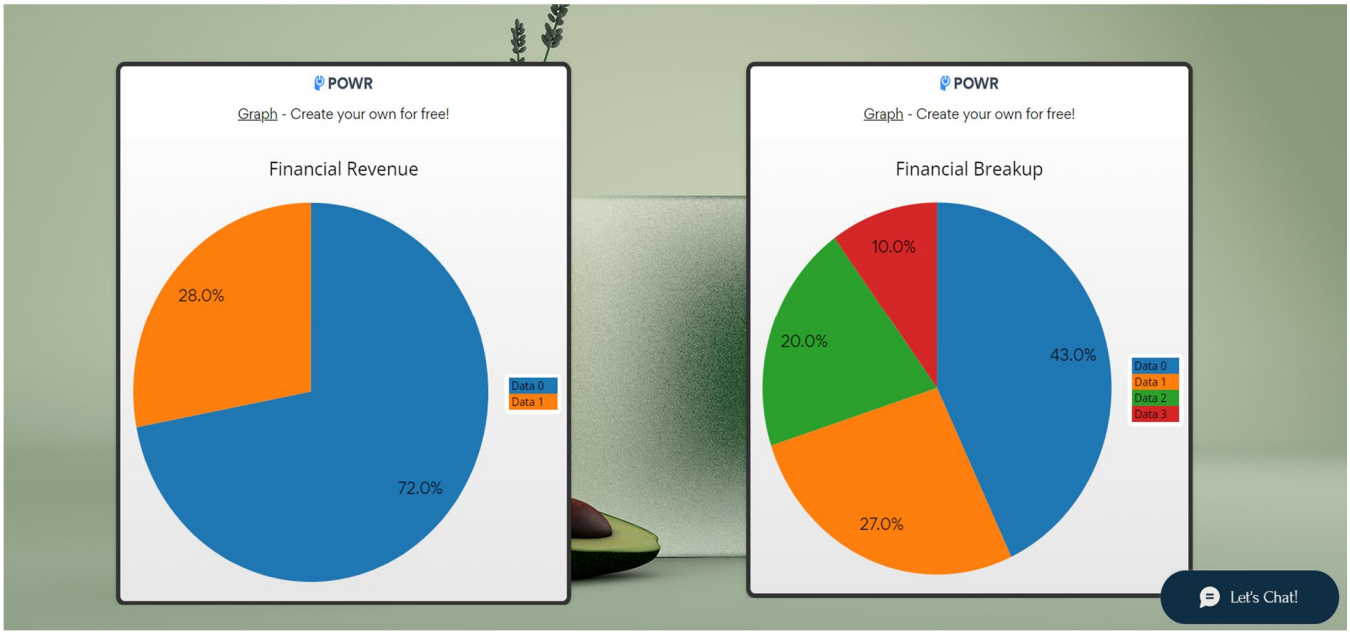


Fig 12. Graphical representation of financial transparencies

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We can also restrict certain pages to volunteers and make it only available for organisers. The other most crucial feature we have added is to bridge the communication gap between the organisers and the volunteers. With a feature in the website, now organisers can split volunteers into specific groups and form forums where they can communicate and interact.

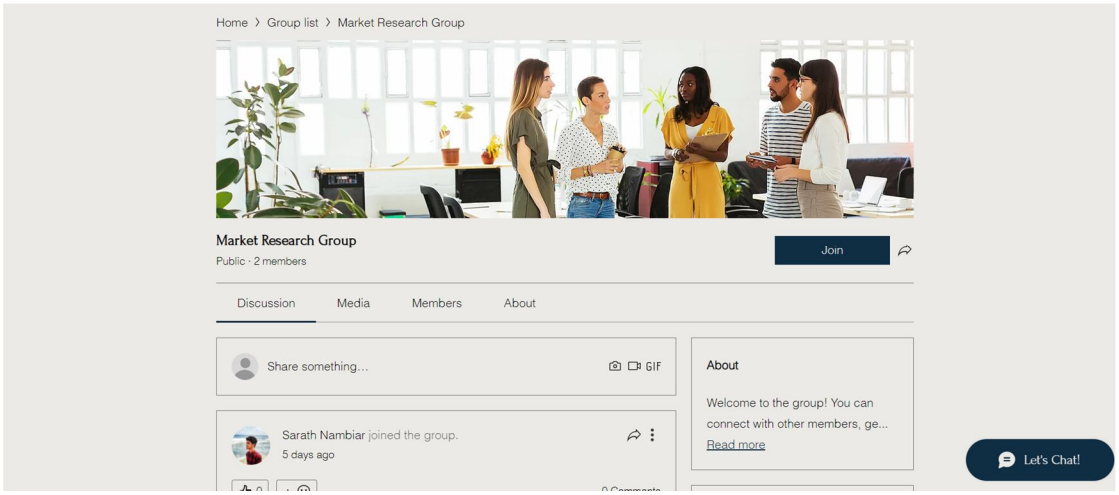


Fig 13. Communications tab used for smoother interaction

A chatbot has been added to clear common queries and interact with the developer in case they face some issues. The chat functionality can further be used to communicate.

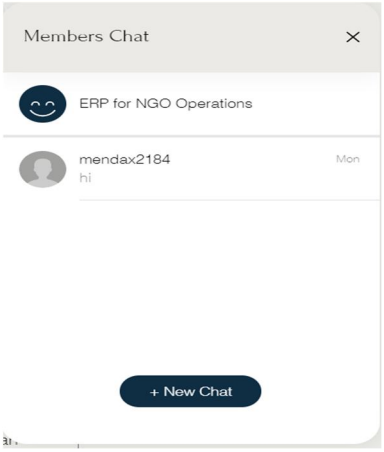


Fig 14. Chat functionality tab

The volunteers can also access the volunteer profile option using which they will be able see their work to be done, location, and their immediate supervisors.

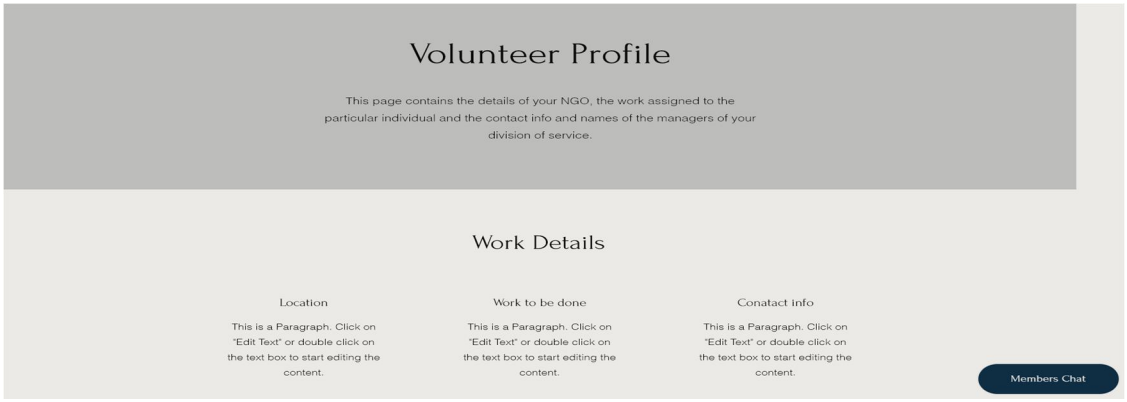


Fig 15. Volunteer profile tab

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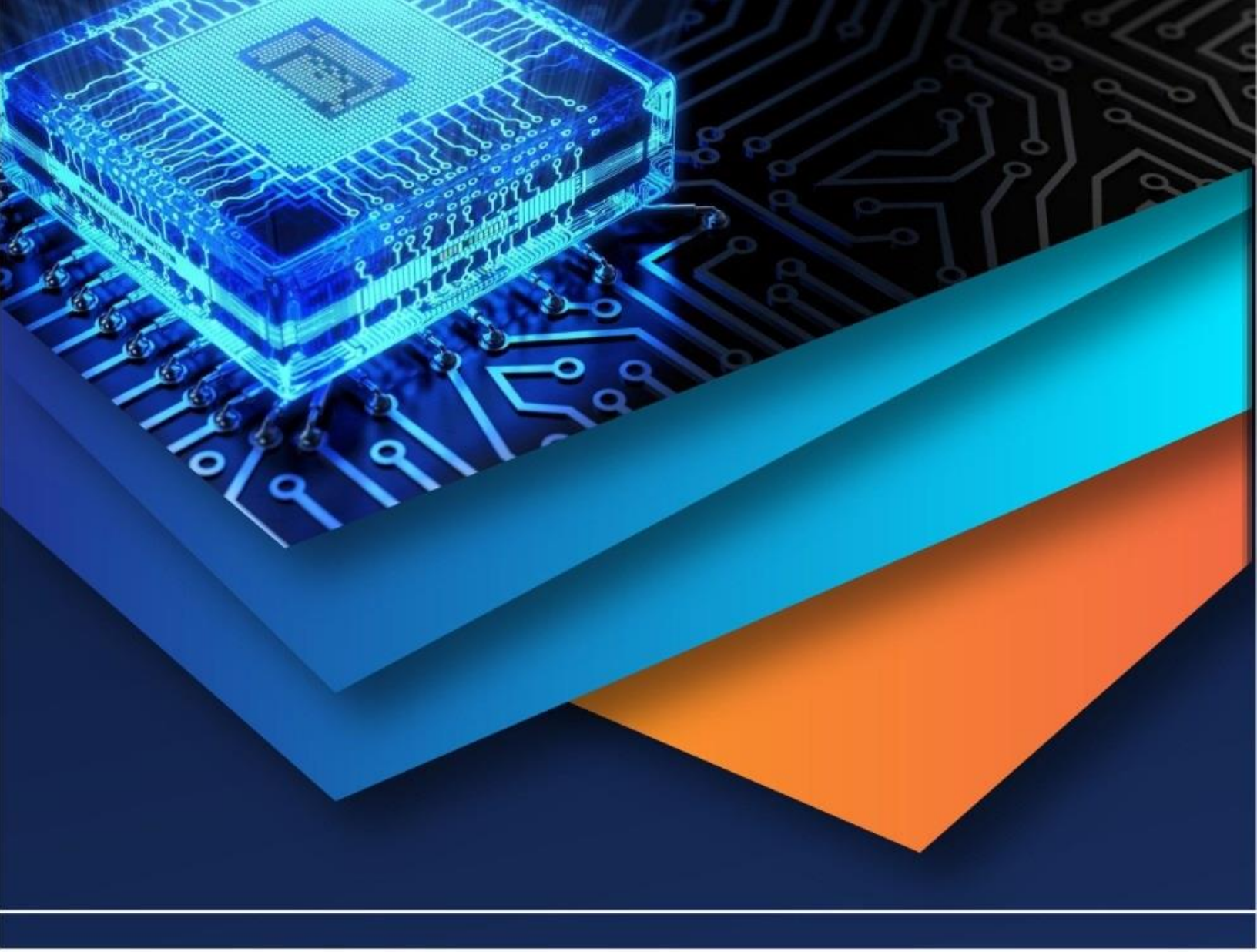
VII. CONCLUSION

The NGO's ERP system is being studied and developed to provide an online application for the organizations from which to perform tasks related to the management and control the flow of the entire organization. The system provides the services to manage attendance, volunteer tracking, financial transparency, budgeting allocations, personal history, leave management and reducing communication gaps. Leveraging the organization's time and cost resources. The system and its modules will help organizations digitalize their work environment and solve the problems they currently face with manual systems, as noted above. The system will bring great benefits to these organizations by making their processes easier.

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