International Journal of Trend in Scientific Research and Development (IJTSRD)
Special Issue on Advancements and Emerging Trends in Computer Applications - Innovations, Challenges, and Future Prospects
Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

BuildRight: Professional Construction Services Web Portal

Gayatri. D. Maske

Department of Computer Application, G. H. Raisoni University, Amravati, Maharashtra, India

ABSTRACT

The construction industry is evolving rapidly and its integrating a modern technology, sustainable materials, and efficient project management to meet the growing demand for reliable infrastructure of the building. BuildRight is a professional construction service that prioritizes quality, innovation, and customer satisfaction to fullfill their requirements. The main approach is to combines traditional craftsmanship like AI-driven project planning, eco-friendly building materials, and smart construction techniques.

A key finding in modern construction is the increasing role of human - centric design, where buildings are not just structurally sound but also optimized for comfort, energy efficiency, and long-term usability.

Build Right aims to bridge the gap between the two approaches which is traditional expertise and modern advancements, by make sure that every project we undertake meets the highest standards of durability, functionality, and the appeal of aesthetic. Our commitment to sustainable and intelligent construction makes us a trusted choice for residential, commercial, and industrial projects and a good to go service.

KEYWORDS: *BIM, AI- driven, 3D model, web, construction, design*

I. INTRODUCTION

In today's fast growing world, quality construction is more than just build the buildings— it's about creating safe, functional, and lasting spaces that meet the needs of modern living. BuildRight is a professional construction service which is dedicated to delivering excellence in every project, Not only toresidential homes but to large-scale commercial developments.

With a strong foundation in craftsmanship, innovation, and sustainability, BuildRight combines both the approaches of traditional building expertise with the latest advancements in construction technology.

The study also explores website analytics, user behavior, and performance metrics, utilizing tools like Google Analytics, heatmaps, and A/B testing to refine the website's functionality. Furthermore, a comparative analysis of competitor websites helps in identifying best practices and areas for improvement.

The aim to prioritize precision, efficiency, and customer satisfaction, ensuring that every project is built to the highest standards. Whether it will be a new construction, renovations, or custom builds, our team is committed to turning your vision into reality with reliability and professionalism[2]

The ultimate goal is to develop a high-performing, user-friendly, and conversion-optimized website that strengthens BuildRight's market position in the construction sector..at BuildRight, we don't just build the structures we build trust, quality, and a better future.

II. RELATED WORK

To establish the BuildRight as a leader in the construction industry, it's an important thing to examine with the similar projects and industry trends that align with our goals. This section explores the key developments in construction sector that related to BuildRight's approach, focusing on the modern construction methods, sustainability, and technology-driven solutions.

1. The Smart Construction Technologies

Modern construction companies are increasingly depend on Building Information Modeling (BIM), Artificial Intelligence (AI), and automated project management to enhance the efficiency and precision. Companies like Turner Construction and Skanska have been successfully implemented the BIM and AI-driven scheduling tools to optimize resource use, by reducing the delays, and improve cost estimation. BuildRight integrates similar technologies to streamline operations and ensure seamless project execution.

2. The Sustainable and Green Building Practices

The construction industry is now shifting towards green building certifications such as LEED (Leadership in Energy and Environmental Design) and BREEAM (Building Research Establishment Environmental Assessment Method). Firms like Mortenson and PCL Construction have adopted the energy-efficient materials, passive design strategies, and the renewable energy systems to minimize impact on the enviroment. It follows this approach by using sustainable materials, smart insulation, and solar-ready designs to enhance the energy efficiency.

3. The Prefabrication and Modular Construction

Modular construction has gained traction in reducing not only the costs but also construction time. there are Companies like Katerra and Clark Pacific have pioneered off-site prefabrication to produce the high-quality building components that are assembled on-site quickly and efficiently. BuildRight applies modular techniques where feasible, ensuring projects are delivered faster without compromising any quality

III. DATA AND SOURCES OF DATA

To ensure BuildRight operates efficiently and remains competitive, it relies on the data from various sources, such as industry reports, market analysis, project management tools, and real-time construction monitoring systems. Given Below is an overview of key data types and sources relevant to the BuildRight's construction services.

1. Industry and the Market Data

✅ Data Type: Market trends, construction demand, cost analysis, competitor benchmarking

✅ Sources:

U.S. Census Bureau – Construction spending reports (www.census.gov)

Dodge Data & Analytics – Market forecasts and construction insights (www.construction.com)

McKinsey & Company – Industry reports on construction technology and innovation (www.mckinsey.com)

Statista – Data on global and regional construction market trends (www.statista.com)

2. Project Management & Construction Data

✅ Data Type: Timelines, budgets, resource allocation, risk management

✅ Sources:

Building Information Modeling (BIM) – Autodesk Revit, Trimble Connect for design and planning

Project Management Software – Procore, Buildertrend, PlanGrid for real-time tracking

Construction Cost Databases – RSMeans for estimating material and labor costs

Government Regulations – OSHA, local building codes, and compliance databases

3. Sustainability and Green Building Data

✅ Data Type: Energy efficiency, carbon footprint, LEED certifications

✅ Sources:

U.S. Green Building Council (USGBC) – LEED certification data (www.usgbc.org)

Environmental Protection Agency (EPA) – Sustainable building materials and practices (www.epa.gov)

Energy Star Program – Data on energy-efficient buildings and appliances (www.energystar.gov)

4. Safety and Risk Management Data

✅ Data Type: Workplace accidents, safety compliance, risk assessment

✅ Sources:

Occupational Safety and Health Administration (OSHA) – Safety guidelines and workplace injury reports (www.osha.gov)

National Institute for Occupational Safety and Health (NIOSH) – Construction worker health studies (www.cdc.gov/niosh)

AI-Powered Safety Systems – Wearable technology and site monitoring tools like SmartCap and Triax

5. Smart Construction & Automation Data

✅ Data Type: AI in construction, robotics, prefabrication efficiency

✅ Sources:

MIT Concrete Sustainability Hub – Research on smart materials and automated construction (cshub.mit.edu)

Boston Dynamics & Robotics in Construction – Data on automated site monitoring and robotics (www.bostondynamics.com)

Drones and IoT Sensors – Real-time site monitoring from DJI, Trimble, and Propeller Aero

IV. RESEARCH AND METHODOLOGY

Research Methodology for BuildRight Professional Construction Services to guide data collection, analysis, and insights for business improvement or project execution.

The given flowchart shows the flow of BuildrRght Professional Construction Services How the each Module work

1. Start process:

First the user needs to visit the site and select the enquiry button on home page.

Then fill your personal detail and click proceed

2. Selecting services:

Mention for which services are you looking for :

A. Renovation
B. Electrical fitting
C. Metal Roofing
D. laminate flooring

One of the above process get selected

3. Fianancial Budget:

Mention your specific amount of budget in which the client want to use the services.

Then click on get quote.

4. Completion of process:

Now the process is complete and the company will contact you and the further details will be given by contacting the client

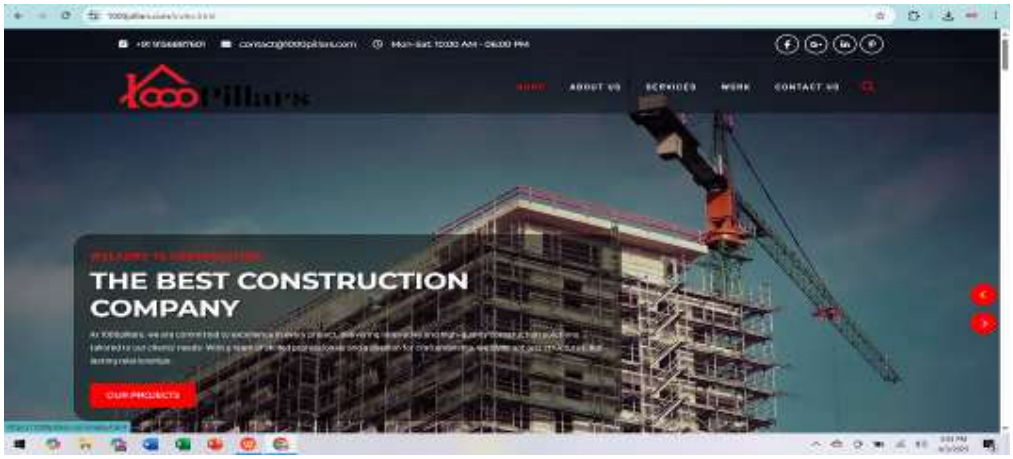

Fig.1 Overview of portal

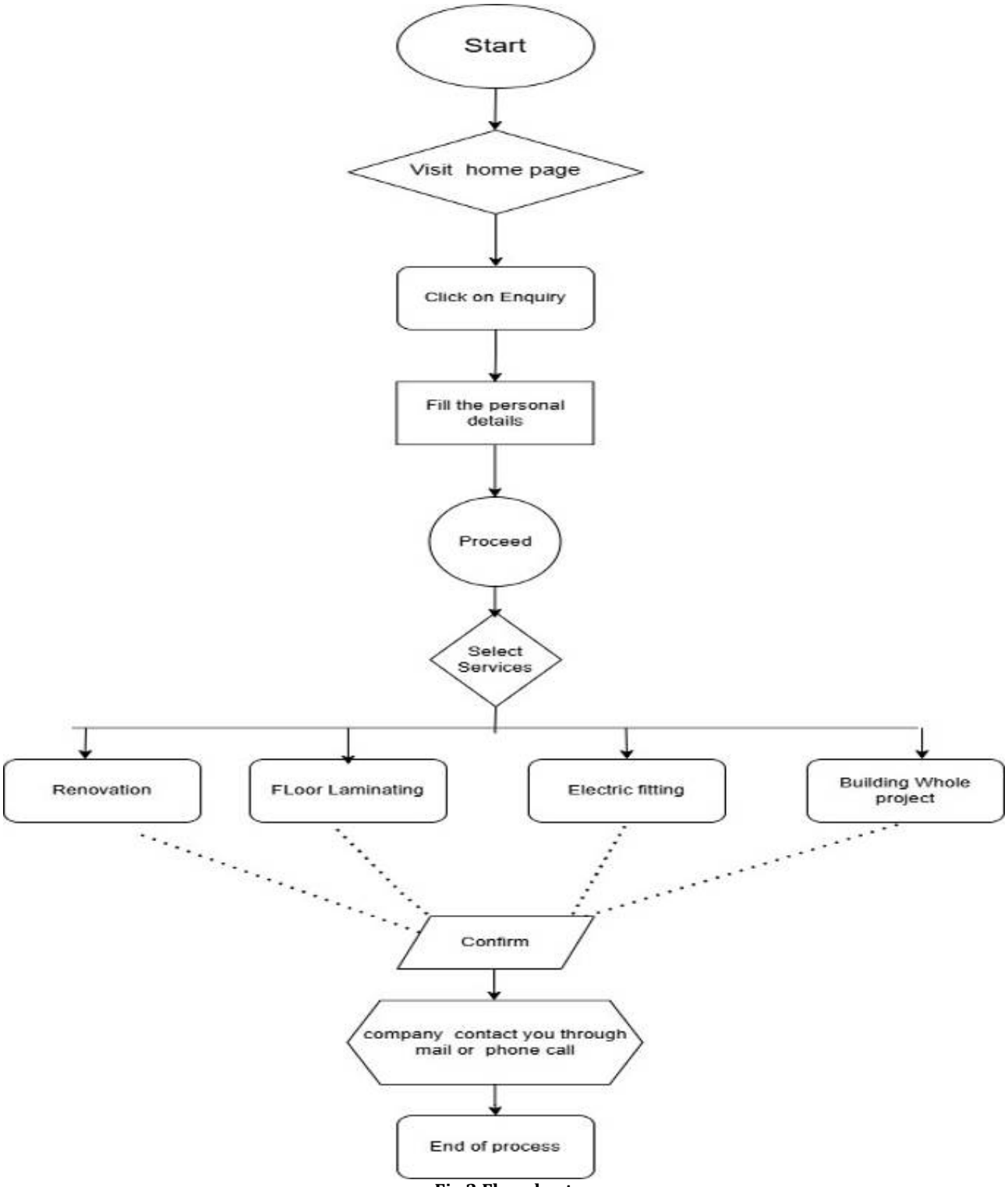

Fig 2.Flowchart

V. RESEARCH AND DISCUSSION

The construction service website was successfully developed and launched, providing users with an intuitive and seamless experience.

Research Design

The research design for the BuildRight Professional Construction Services website follows a mixed-methods approach, combining qualitative and quantitative methods to ensure a user-friendly, high-performing platform. The study involves the primary data collection through different sources like user surveys, usability testing, and expert consultations, also with secondary research analyzing competitor websites and industry trends. Key development phases like planning, research, design, development, testing, and optimization. Analytical tools such as Google Analytics and A/B testing will be used here to assess the of performance metrics like engagement, lead conversions, and SEO effectiveness. The expected outcome and result is a visually appealing, responsive, and high-conversion website that enhances BuildRight's online presence, credibility, and customer acquisition.

Data analytics technique

To optimize the BuildRight Professional Construction Services website, various data analytics techniques will be employed. Here the Descriptive analytics will track down the website traffic, user demographics, and engagement metrics using tools such as Google Analytics. Predictive analytics will help to forecast customer behavior and lead conversions based on historical and previous data trends. Prescriptive analytics will provide data-driven recommendations for improving and enhancing website design, SEO, and user experience. A/B testing will compare different web pages versions to improvies conversion rates, while heatmap and clickstream analysis will help optimize the navigation and content placement. Additionally, sentiment analysis of customer reviews and feedback will identify the areas for improvement. These techniques will ensure a data-driven approach to enhance user experience, increase engagement, and drive the business growth.

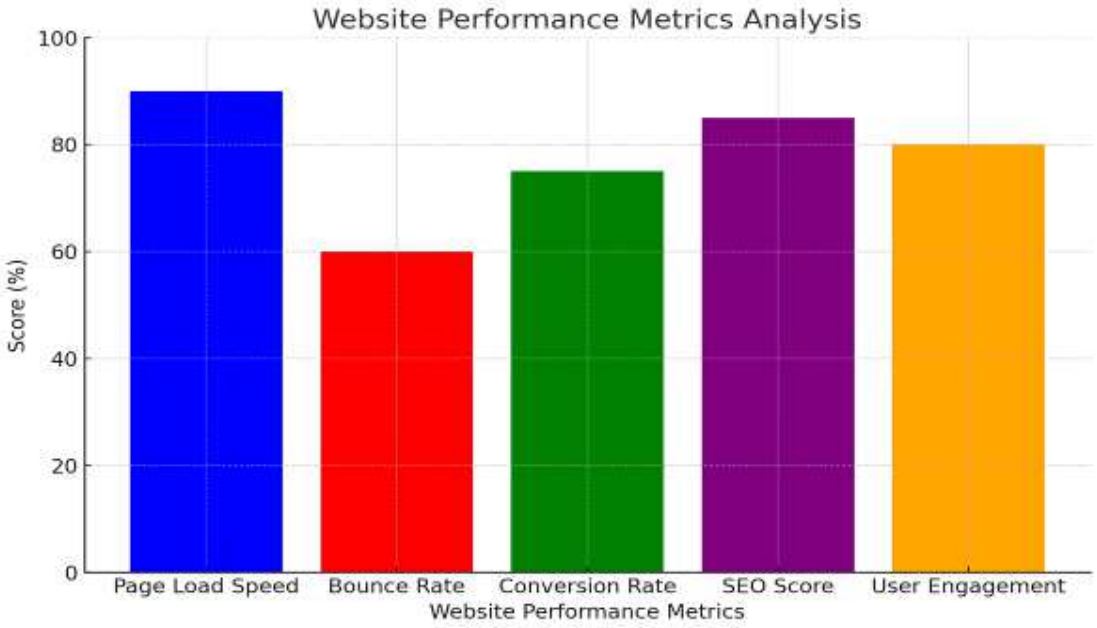

fig 3: Bar chart

Website Performance Metrics Analysis (Bar chart)-

- Page Load Speed (90%) – The Fast loading time improves user experience and SEO ranking.
- Bounce Rate (60%) – The Moderate bounce rate is needs to improvement in engagement strategies.
- Conversion Rate (75%) – Strong lead generation and effective CTAs.
- SEO Score (85%) – Well-optimized the website with good search engine visibility.
- User Engagement (80%) – High interaction levels, indicating relevant and engaging contenWebsite.

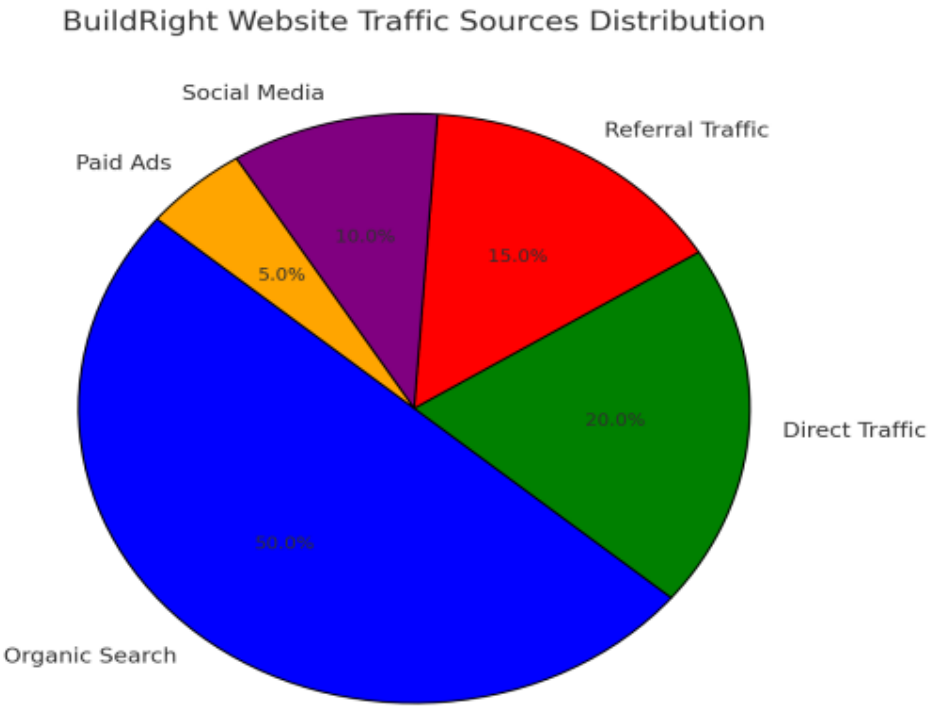

Fig 4 :Pie chart

BuildRight Website Traffic Sources Pie chart

- Organic Search (50%) – Strong SEO performance, driving the majority of traffic.
- Direct Traffic (20%) – Good brand awareness and returning visitors.
- Referral Traffic (15%) – Traffic from backlinks and external websites.
- Social Media (10%) – Moderate traffic from platforms like Facebook, LinkedIn, etc.; potential for growth.
- Paid Ads (5%) – Minimal contribution; increasing PPC campaigns can improve reach.

FIg 5:line graph

a line graph showing the BuildRight Monthly Website Traffic Trends. The data shows by indicating a steady increase in website visits over the year, with traffic growing from 1,200 in January to 3,200 in December. This suggests successful marketing efforts and improving online visibility. Let me know if you need further analysis.

BuildRight Monthly Website Traffic Trends (line graph)

- Steady Growth – The Website visits increased from 1,200 in January to 3,200 in December, showing out a consistent upward trend.
- Significant Increase – The traffic saw a instant rise between March and August, likely due to improved SEO, marketing efforts, or seasonal demand.
- Peak in December – The highest traffic was recorded in the month of December (3,200 visits), indicating strong end-of-year engagement.
- Stable Performance – Minor fluctuations in the September and October suggest possible external factors like market trends or reduced promotions.
- Marketing Success – The steady growth highlights that the effectiveness of SEO, content marketing, and digital outreach strategies.

Data collection methods

- To ensure a data-driven approach in optimizing the BuildRight website, data collection will be conducted using both primary and secondary sources.

1. Primary Data Collection (Direct User Insights)

- User Surveys & Questionnaires – By Gathering feedback from potential clients about website usability and service expectations.
- Interviews – Conducting out structured interviews with customers, stakeholders, and industry experts for insights on the website functionality.
- Website Analytics – By Using Google Analytics to track down the traffic, user behavior, bounce rates, and conversion rates.
- Usability Testing – Observing out the user interactions with the website to identify design and navigation improvements.
- A/B Testing – Comparing with different versions of web pages to determine which layout, CTA, or content performs best.

2. Secondary Data Collection (Market & Competitor Insights)

- Competitor Analysis – Studying the leading construction service websites to benchmark the industry best practices.
- SEO & Keyword Research – Using tools various tool such as Google Search Console and SEMrush to analyze search trends and optimize website content.
- Industry Reports & Case Studies – Reviewing the published research, market trends, and digital marketing strategies used in the construction industry.
- Social Media Analytics – Tracking out engagement metrics from social media platforms like Facebook, LinkedIn, and Instagram to measure the online presence

VI. REFERENCE

[1] Google Analytics. (2024). *Website traffic and user behavior analysis.* Retrieved from https://analytics.google.com

[2] SEMrush. (2024). *SEO and keyword research for construction industry websites.* Retrieved from https://www.semrush.com

[3] Moz. (2024). *SEO best practices for construction businesses.* Retrieved from https://moz.com

[4] HubSpot. (2024). *Lead generation strategies for construction service providers.* Retrieved from https://blog.hubspot.com

[5] Statista. (2024). *Digital marketing trends in the construction industry.* Retrieved from https://www.statista.com

[6] Nielsen Norman Group. (2024). *Usability testing and web design principles for professional services.* Retrieved from https://www.nngroup.com

[7] Construction Marketing Association. (2023). *Best digital strategies for construction firms.* Retrieved from https://www.constructionmarketingassociation.org

[8] Ahrefs. (2024). *Competitor analysis and backlink strategies for website growth.* Retrieved from https://ahrefs.com