



WEB-ACCESS SUSTAINABLE DEVELOPMENT GOALS MONITORING SYSTEM OF NON- PROFIT ORGANIZATION WITH TARGETED ANALYTICS

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Abstract: The Sustainable Development Goals (SDGs) of the UN are significantly pushed by non-profit organizations, although they frequently face challenges due to inconsistent data and ineffective manual reporting systems. To overcome these obstacles, this study created the "Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics." The main goal was to establish a centralized platform that tracks SDG-related projects in a systematic approach, automates compliance evaluation, and offers real-time targeted analytics for better decision-making. MySQL and the Laravel framework were used to build the system implementing an Agile methodology and a descriptive developing approach. IT specialists and end users assessed its performance using ISO/IEC 25010 criteria. The system achieved a grand mean of 3.91 for software quality and 3.95 for usability, both interpreted as "Very Good." Important features, like project tracking and compliance

monitoring, were highly commended for their effectiveness in streamlining operations, providing a significant level of acceptability. According to the study's findings, this online solution effectively bridges the gap between traditional reporting and modern digital tools, providing a safe, effective, and user-friendly platform that improves strategic planning and transparency in sustainable development initiatives.

Keywords: Sustainable Development Goals, Non-Profit Organizations, Web-Based Monitoring, Targeted Analytics, Agile Methodology

I. INTRODUCTION

The Sustainable Development Goals (SDGs), established by the United Nations, serve as a comprehensive framework for addressing global challenges such as poverty, inequality, climate change, and economic growth. Non-profit organizations (NPOs) play a crucial role in achieving these goals by implementing targeted initiatives and community-driven programs. However, effectively monitoring and evaluating the progress of SDG-related projects remains a significant challenge due to fragmented data collection, inconsistent reporting mechanisms, and a lack of real-time analytics (Sachs *et al.*, 2019).

Web-based platforms provide a promising solution for streamlining SDG monitoring in non-profit organizations. These systems can integrate data tracking techniques to collect and analyze key performance indicators (KPIs), project milestones, and compliance metrics related to SDG targets (Johnson & Lee, 2021). By utilizing a Web-Access Sustainable Development Goals Monitoring System of Non-profit Organization with Targeted Analytics, organizations can enhance transparency, improve data-driven decision-making, and ensure accountability in their initiatives.

Targeted analytics play a critical role in transforming raw data into actionable insights. With advanced analytical tools, organizations can evaluate project effectiveness, identify areas for improvement, and allocate resources more efficiently. For instance, a system that tracks progress toward specific SDG indicators can help NPOs assess whether their interventions are meeting intended outcomes and adjust strategies accordingly (Martinez & Green, 2020).

Despite technological advancements, many non-profit organizations still rely on manual reporting and traditional evaluation methods, which can be time-consuming and prone to inaccuracies. Existing research focuses primarily on broad sustainability reporting frameworks rather than the integration of targeted analytics within web-based SDG monitoring systems (Deshmukh *et al.*, 2022). This gap highlights the need for a dedicated system that combines digital tools with real-time analytics to support non-profit organizations in achieving their SDG objectives effectively.

This study aims to develop a web-based monitoring system that records and tracks SDG-related projects, allowing non-profit organizations to measure compliance rates, monitor progress, and generate data-driven reports. By integrating targeted analytics, the system will provide valuable insights that enhance strategic decision-making and improve the overall effectiveness of sustainable development initiatives. Ultimately, the proposed system seeks to bridge the gap between traditional reporting methods and modern digital solutions, promoting efficiency, accountability, and transparency in SDG monitoring efforts.

Objectives of the Study

This study aims to develop a Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics to effectively track and evaluate their SDG-related initiatives.

Specifically, it aims to:

1. Design and develop a web-based monitoring system that will:
 - a. Systematically record and track SDG-related projects and initiatives.
 - b. Assess the compliance percentage with SDG targets using automated tracking mechanisms; and
 - c. Provide targeted analytics to evaluate project effectiveness, impact, and sustainability.
2. Evaluate the overall quality of the developed application based on the ISO/IEC 25010 Software Quality Model and Quality in Use Criteria, specifically assessing:
 - a. Product Quality through IT experts' evaluation in terms of functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability; and
 - b. Quality in Use through end-user's assessment in terms of effectiveness, efficiency, satisfaction, freedom from risk, and context coverage.

II. MATERIALS AND METHODS

The descriptive developmental technique, which is the methodical study of designing, creating, and carefully evaluating programs, procedures, and products that must meet standards or criteria, was employed by the researcher.

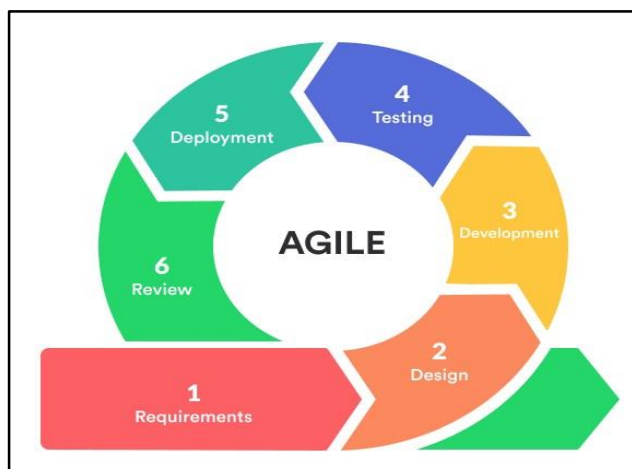


Figure 1. *Software Development Life Cycle*

Figure 1 shows the conceptual framework of the Web-Access Sustainable Development Goals Monitoring System of Non-profit Organization with Targeted Analytics. It is based on the IPOO (Input, Process, Output, and Outcome) Model.

Requirements. In this phase, the requirements for the system are gathered and analyzed. This includes identifying the user requirements, business rules, and data requirements for the system. For the web-access sustainable development goals monitoring system of non-profit organization with targeted analytics, this involves identifying the specific features and functions needed for the goal setting process, information tracking processing, and integration of targeted analytics.

Design. In this phase, the system architecture is designed, and detailed specifications are developed. For the web-access sustainable development goals monitoring system of non-profit organization with targeted analytics, this involves designing the user interface, data models, and workflows.

Development. This phase involves the actual development of the software. For the web-access sustainable development goals monitoring system of non-profit organization with targeted analytics, this includes programming of the application, configuring the database, and integrating analytics.

Testing. In this phase, the system is tested to ensure that it meets the requirements and specifications. For the web-access sustainable development goals monitoring system of non-profit organization with targeted analytics, this includes testing goal setting process, information tracking processing, and integration of targeted analytics functions to ensure they work correctly.

Deployment. This phase involves making the software increment available to users vary depending on the project requirements, configuring, integrating, and deploying the software in a production environment.

Review. This phase involves evaluating the delivered increment and gathering feedback from users. The feedback is for identifying areas of improvement, addressing any issues or concerns, and refining the product backlog for future iterations.

Data Gathering Procedures. Specifically, the experts gather and examine data using semi-structured interviews and theme analysis. In order to gather thorough insights and perspectives, the procedural approach includes conducting in-depth interviews with participants. Following the interview material's transcription and coding, the experts conducts a thematic analysis to identify recurring themes and patterns.

III. RESULTS AND DISCUSSION

After thorough evaluation of the experts and respondents, the following are discovered:

Table 1. *Level of User Acceptability in terms of Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics*

In Terms of Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics	MEAN	Verbal Interpretation
Systematically record and track SDG-related projects and initiatives	4.0	Very Good
Assess the compliance percentage with SDG targets using automated tracking mechanisms	4.0	Very Good
Provide targeted analytics using charts to evaluate project effectiveness, impact, and sustainability	4.0	Very Good
Grand Mean	4.0	Very Good

Table 1 presents the level of user acceptability of the proposed *Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics*. The **Grand Mean of 4.0**, interpreted as **“Very Good”**, indicates that the system is highly acceptable and successfully meets the functional expectations of its users in monitoring and evaluating SDG-related activities.

Table 2. *Level of User Acceptability In terms of determining the quality of the Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics based on ISO/IEC 25010:2011 Systems and Software Quality Requirements and Evaluation (SQuaRE) Quality Model*

Criteria	Mean	Interpretation
Functional suitability	3.9	Very Good
Performance efficiency	3.9	Very Good
Compatibility	4.0	Very Good
Usability	3.9	Very Good
Reliability	3.9	Very Good
Security	4.0	Very Good
Maintainability	3.8	Very Good
Portability	3.9	Very Good
Grand Mean	3.9	Very Good

Table 2 shows the result of the IT Experts’ feedback in determining the quality of the Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics based on the characteristics set in the ISO/IEC 25010:2011 Systems and Software Quality Requirements and Evaluation (SQuaRE) Quality Model.

In terms of functional suitability, the system obtained a mean score of 3.9, interpreted as Very Good. As to performance efficiency, it was rated 3.9, with a Very Good interpretation. With regards to compatibility, the system received a mean score of 4.0, also interpreted as Very Good. In terms of usability, a mean value of 3.9 was obtained and interpreted as Very Good. In the case of reliability, the system garnered 3.9, interpreted as Very Good. For security, it acquired a mean score of 4.0, indicating a Very Good interpretation. Regarding maintainability, the system received 3.8, interpreted likewise as Very Good. Lastly, in terms of portability, a mean rating of 3.9 was recorded and interpreted as Very Good.

Table 3. *Level of User Acceptability in terms of the usability of the Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics in terms of usefulness, satisfaction, ease of use, and learning*

In Terms of usefulness, satisfaction, ease of use, and learning	MEAN	Verbal Interpretation
Effectiveness	4.0	Very Good
Efficiency	4.0	Very Good
Satisfaction		
Usefulness	4.0	Very Good
Trust	4.0	Very Good
Pleasure	4.0	Very Good
Comfort	3.7	
Freedom from risk		
Economic risk mitigation	4.0	Very Good
Health and safety risk mitigation	4.0	Very Good
Environmental risk mitigation	4.0	Very Good
Context coverage		
Context completeness	3.7	Very Good
Flexibility	4.0	Very Good
Grand Mean	3.95	Very Good

Table 3 presents the result of the users’ feedback on the Web-Access Sustainable Development Goals Monitoring System of Non-Profit Organization with Targeted Analytics in terms of usability, specifically focusing on usefulness, satisfaction, ease of use, and learning.

In terms of effectiveness, the system obtained a mean value of 4.0, interpreted as Very Good. As to efficiency, it likewise received a mean value of 4.0, interpreted as Very Good. Regarding satisfaction, the system showed positive results across its indicators. It obtained a score of 4.0 in usefulness, trust, and pleasure, each interpreted as Very Good, while comfort was rated 3.7, also interpreted as Very Good.

IV. SUMMARY OF FINDINGS

Based on the detailed presentation, discussion, interpretation, and analysis of research findings, the following summary is hereby presented:

1. In terms of systematic SDG tracking, the system was rated 4.0, which is interpreted as Highly Satisfied. This signifies that the feature is accurate and reliable, supporting transparency in SDG reporting for non-profit organizations.
2. In terms of automated compliance assessment, the system was rated 4.0, which is interpreted as Strong User Approval. This reflects that the system efficiently validates SDG-aligned indicators and removes the need for complex manual analysis.
3. In terms of targeted analytics, the system was rated 4.0, which is interpreted as Fully Satisfied. This reveals that the visual performance insights are informative, data-driven, and essential for strategic decision-making.
4. In terms of overall system quality, the system obtained a grand mean of 3.91, which is interpreted as very good based on ISO/IEC 25010 standards. This indicates
5. The usability evaluation collected a grand mean of 3.95 (Very Good) in terms of effectiveness, efficiency, satisfaction, freedom from risk, context coverage, and flexibility. This implies that users experience high reliability, safety, convenience, and system adaptability during SDG monitoring and reporting activities.
6. The evaluation results from system users and IT experts collectively show that the system meets software quality requirements. Therefore, the proposed web-based solution significantly enhances data management, monitoring accuracy, and SDG documentation processes among non-profit organizations.

V. CONCLUSIONS

The result of the alpha and beta testing activities and system evaluation was positively proven. Therefore, the researcher concluded that:

1. The consistently high ratings across all evaluated features confirm that the system delivers excellent functionality and meets user expectations in supporting SDG-based monitoring and evaluation processes.

2. The SDG Tracking, Compliance Assessment, and Targeted Analytics features received Very Good ratings (4.0), indicating that users are fully satisfied with the system's core functions and consider them essential in validating sustainability initiatives.
3. The usability evaluation, with a grand mean of 3.95, demonstrates high user satisfaction in terms of convenience, efficiency, security, and risk reduction. Although all usability components performed well, minor refinements in comfort and context completeness may still further improve the user experience.
4. With all features rated Very Good, the results confirm that the web-access SDG monitoring system is effective, user-friendly, and optimally aligned with the needs of non-profit organizations, supporting accurate reporting, transparent monitoring, and strategic SDG performance assessment.

VI. RECOMMENDATIONS

1. The full integration of the system for the different responsibility area heads is highly recommended to monitor, evaluate the documents submitted for compliances.
2. Conduct a training on how to use the system especially to those users who are not tech savvy.
3. The future researcher can use this study as reference to help improve the processes.

CONFLICTS OF INTEREST

The author declares that for this article she has no actual, potential or perceived conflict of interests. Financial disclosure: The research work is funded by the researcher.

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