

Brought to you by [Universidad El Bosque](#)



Scopus

[Back](#)

Business intelligence for decision-making in royalties project management

[Transactions on Energy Systems and Engineering Applications](#) • Article • Open Access • 2025 • DOI: 10.32397/tesea.vol6.n1.718

[Sánchez-Gómez, Juan Sebastián](#)^a ; [Herrera, Edwin Andres Arevalo](#)^b; [Puentes, Cristian Camilo Torres](#)^b

^aEngineering School, Universidad El Bosque, Bogotá, Colombia

[Show all information](#)

0

Citations

View PDF

Full text ▾

Export ▾

Save to list

Document

Impact

Cited by (0)

References (25)

Similar documents

Abstract

This article highlights the critical role of specialized digital tools in enhancing project management and monitoring in Colombia's public sector; it showcases how Microsoft Office 365 and Power Platform have been effectively utilized to optimize royalty-funded initiatives, automating processes and improving decision-making through advanced data análisis. These tools enable process optimization, task automation, and enhanced data analysis, significantly improving the administration of resources and facilitating timely, well-informed decision-making. The methodology is quantitative and complementary information is taken from the technical and legal opinions of the participating professionals. For its execution, a combined approach had to be followed: a PMBOK methodology that gave a clear roadmap and an agile SCRUM methodology capable of highly prioritizing schedule management to provide effective results. In this process, the tools used are Power BI, Power Apps, and Power Automate; these are used to automate tasks and improve operational efficiency by addressing specific issues and contributing to project management and project optimization. Through this project, a proper technological infrastructure has been built for senior management strategic management, planning team tactical management, and operative monitoring to implement BI systems successfully. The project is structured in several phases: initial preparation and planning; implementation; and personnel training, emphasizing continuous training and personnel adaptation to manage resistance to change. Implementing BI and digital tools facilitates teams to work closely together, with noticeable improvements in coordination and operational efficiency. This paper deals with the optimization of monitoring project management of the SGR in the Office of the Attorney General of the Nation, and this experience seeks to be an example to other entities and to inspire them to walk these paths toward a culture of innovation and permanent improvement within the public sector in Colombia. These Microsoft tools are available to most national public servants and contractors, so generating the solution does not imply additional costs. The experience is well documented in the present work and provides a replicable model that can adapt to multiple contexts, promoting greater efficacy and efficiency in public administration. © 2025 by the authors.

Funding details

Details about financial support for research, including funding sources and grant numbers as provided in academic publications.

Funding sponsor	Funding number	Acronym
Universidad El Bosque See opportunities by UEB ↗		UEB

Funding text

Funding: This research was funded for Universidad El Bosque and Polit\u00E9cnico Grancolombiano.

Corresponding authors

Corresponding author	J.S. Sánchez-Gómez
Affiliation	Engineering School, Universidad El Bosque, Bogotá, Colombia
Email address	jusesago@gmail.com

© Copyright 2025 Elsevier B.V., All rights reserved.

Abstract
Funding details
Corresponding authors

About Scopus

- [What is Scopus](#)
- [Content coverage](#)
- [Scopus blog](#)
- [Scopus API](#)
- [Privacy matters](#)

Language

- [日本語版を表示する](#)
- [查看简体中文版本](#)
- [查看繁體中文版本](#)
- [Просмотр версии на русском языке](#)

Customer Service

[Help](#)

[Tutorials](#)

[Contact us](#)

ELSEVIER

[Terms and conditions](#) ↗ [Privacy policy](#) ↗ [Cookies settings](#)

All content on this site: Copyright © 2026 [Elsevier B.V.](#) ↗, its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies. For all open access content, the relevant licensing terms apply.

