TRIPLE BOTTOM LINE (TBL) THEORY IN UNIVERSITY LIBRARIES: HOW CAN GREEN LIBRARIES EXTEND LIBRARY SERVICES AND IMPLICATIONS FOR COLLECTION DEVELOPMENT?

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Abstract

The Triple Bottom Line (TBL) theory has been used by corporations and businesses to enhance sustainability practices. However, this theory may be implementable for libraries and information centres. Thus, this study examined the TBL theory in understanding how green libraries extend library services in university libraries. This study adopts the narrative review design and did a comprehensive qualitative analysis of related literature to show evidence on how TBL theory can be adopted in university libraries setting. Moreover, the databases consulted for this study include Google Scholar, Taylor and Francis, Emerald, Sage, Scopus, and Web of Science. The results showed that there are 3Ps in the TBL theory, which stands for "profit", "people", and "planet". All of these represent the three elements of sustainability including economic, social, and environmental perspectives respectively. The study demonstrated that the "profit" should be remodified by university libraries to "provision". This is because they are to provide information services and facilities efficiently with available resources. The study indicates that university libraries should ensure all stakeholders like students, lecturers/faculty, researchers, and immediate university environment benefit from them. Moreover, university libraries should ensure their services and routines do not have negative environmental implications.

Keywords: Green libraries, collection development, triple bottom line theory, collection development
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Introduction

The concept of green library has evolved over the past decades. The concept is synonymous to sustainable library. The idea of green library is rooted in general sustainability and green efforts, which are aimed at ensuring livable environment (Adeyemi et al., 2024a; Pagore & Chalukya, 2022). Thus, the conceptual discussion about green library would not be complete without understanding what we mean by the concept of green. Sdrolia and Zarotiadis (2019) noted that not many studies have been conducted on the definitional subject of "green" owing to the fact that the concept of "green" seems to teeter and can be very difficult. There has been an increasing interest in discussion about "green" over the years, which is as a result of the desire to integrate eco-friendly activities into society's everyday routines (Shevchuk et al., 2019).

Gu et al. (2019) noted that the idea of "green" is characterised by wellbeing, harmony, stability, adaptability, optimism, openness, opportunities, and prosperity. This

highlights the importance of green initiatives to the people and the society. Meanwhile, in order to ascertain if an act is green or sustainable, there is a need to establish methods and standards to determine climate risk. Moreover, there is a need to keep records of activities that support the accomplishment of social and environmental goals (Bortz, 2024). Meanwhile, the concept of green libraries is underpinned in the context of green initiatives in the libraries and information services contexts. Cucca et al. (2023) described green initiatives as the acts of implementing green infrastructure and practices in a given setting with the goal of ensuring environmentally-friendliness, economic resilience, and individual wellbeing. In other words, it is simply an act of making a city livable for people within a particular geographical setting.

Adeyemi et al. (2024a) described green libraries as those libraries that adopt tools, techniques, and resources that enhance sustainable practices in library environment, which can lessen the environmental effect of library routines/activities. This indicates that libraries need to be accountable and/or responsible in the ways they conduct themselves while not compromising optimal service delivery. Nikam (2017) notes that libraries and libraries should take up responsibilities in ensuring that natural and renewable resources are used in libraries, which may be in energy efficiency or other resources like water. Moreover, green libraries include the integration of plants into library building architecture to enhance drought resistance. Pangail (2015) highlights that librarians and libraries should take up the responsible of providing eco-friendly solutions to users' information needs and equally make the environment a better place to live in.

Green libraries are conceptually entrenched by the *Green Library Movement*, which emerged in the early 1990s and has permeated the library and information science field (Meher & Parabhoi, 2017). Antonelli (2020) notes that the *Green Library Movement* is made up of librarians, libraries, cities, colleges, and university campuses that are dedicated to making libraries greener and less harmful to the environment. The author notes further that, while the Movement began in the early 1990s, it became only well-known in the library ecosystem about year 2003. This means that the idea of green libraries have become popular globally since over two decades now. However, this is not the same in developing countries, like Nigeria. In this part of the world, the idea of green libraries only became popular in the 2010s as a result of increased awareness on sustainability initiatives and environmental awareness (Osman & Dango, 2020).

Meanwhile, since the inception of the idea of green libraries, there have been efforts to ensure the institutionalisation of green library in the global practices but limited effort at the national level. In 2009, the International Federation of Library Associations and Institutions (IFLA), which is the global body of library and information science, established the Environment, Sustainability, and Libraries Special Interest Group (ENSULIB) to propagate library sustainability practices (IFLA, 2021). For instance, with the sponsorship of De Gruyter Publishing based in Germany, the group created the IFLA Green Library Award in 2016 to advance the library and information science profession through the advancement of sustainability practices in libraries and information centers (IFLA, 2025). In the Nigerian context, however, it is observed that there is absence or little effort towards the institutionalisation of green library by the national body of Nigerian Library Association (NLA). Since little or no theoretical discourse surrounding collection development and green library practices, this study seeks to fill that gap. Therefore, the specific objectives of this study are to:

i. discuss Triple Bottom Line (TBL) theory in the context of university libraries;
ii. contextualise the basic elements of TBL theory to university libraries;
iii. determine how green libraries extend library services in university libraries; and
iv. provide implications of the three elements of TBL theory for collection development.

Methodology

This study adopts the narrative review design to understand how green libraries extend service provision from the lens of Triple Bottom Line (TBL) theory, and the implications for collection development. The study did a comprehensive qualitative analysis of related literature to show evidence on how TBL theory can be adopted in university libraries setting. Moreover, the databases consulted for this study include Google Scholar, Taylor and Francis, Emerald, Sage, Scopus, and Web of Science. These databases were considered appropriate owing to their collections of relevant resources in the area under discussion. The qualitative analysis was carried out individually by the authors and notes were compared to discuss the discursive analysis. The two authors reached a conclusion on the final report on the manuscript. This is to forestall imposing individual's (an author's) subjective bias on the conclusion of the theoretical discourse.

Theoretical Framework

Lederman and Lederman (2015) posited that theoretical frameworks are significant to research of any approach, whether quantitative, qualitative, or mixed methods. The authors argued that theoretical framework gives credence to a research study, showing the importance of the study being conducted in the extant body of the literature. This indicates that the theoretical framework of a study sets the structure that the study would be established upon. A theoretical framework is a logically constructed and interconnected collection of ideas and premises developed by a researcher to support a study, which can be derived from one or more theories (Varpio et al., 2020). Kivunja (2018) concludes that theoretical framework usually emerge from the literature unlike conceptual framework that may include the researcher's personal thinking/observation aside from the theories postulated. Thus, this study seeks to anchor its endeavour on Triple Bottom Line (TBL) Theory.

Triple Bottom Line Theory

The Triple Bottom Line theory was proposed by John Elkington in 1994, and it is designed on sustainability framework (Zaharia & Zaharia, 2021). This means that the TBL theory is anchored on the green or sustainable library practices variable in this study. Arowoshegbe et al. (2016) noted that the Triple Bottom Line theory gives organisations to look beyond their financial bottom line and consider other areas like environment and social responsibility. While university libraries are not established to provide or generate revenue, this does not mean that they are excluded for being economically responsible. This is because irresponsible economic practices may render them short in their library and information service provision. Moreover, the argument of Elkington is that organisations should look beyond their economic sustainability, but consider both societal and environmental sustainability.

Żak (2015) argued that organisations must have objectives that are economically reasonable, socially expected, and environmentally acceptable. There are three elements of TBL theory, which include people (society), planet (environment), and profit (economic) (Hartmann, 2020). Contextually, it may not be reasonable for university libraries to aggressively push for economic development with respect to profit generation. However, there are other economically reasonable practices they can

engage in, which include effective maintenance of library resources, storage and expansion of library holdings, recycling, reduction, reuse, and so on (Kamińska et al., 2021; Tribelhorn, 2023). University libraries that engage in these practices may help their affiliate universities manage their limited or scarce resources. Most especially, most of these resources are acquired or purchase with a significant amount of financial resources. This would ultimately aid service provision. Hence, the profit (economic) axis in the 3 P's would be regarded to as "provision" in this study. Economically viable university libraries would be able to provide adequate resources for their users.

For the planet (environment) construct, Siregar et al. (2016) noted that prosperity concerns both natural world and people. The author argued that the majority of materials used to create goods for human use are derived from natural resources. Nevertheless, in the aim of using maximising these resources, nature should not be ruthlessly abused by disregarding its sustainability. For instance, librarians use paper for different library routines. Inconsiderate use of papers would have dire consequence on the environment since they are made from trees. This is because trees may need to be fell to make more papers. Also, librarians and libraries use different materials for various library routines and services. This means that there is a need to be cautious or be considerate in the use of these resources and the multiplier effects of using those resources on the environment. This connects the planet construct in the TBL theory to the environmental sustainability concept. This emphasises the importance of the theory to underpin the green library practices variable in this study.

Meanwhile, Penn and Fields (2017) described the people (society) in the TBL theory as the implications of an organisation's actions on people's displacement and annoyance to neighbours. This indicates the activities and services of university libraries that may have consequential effects on the people's livelihood and displeasure. This suggests that university libraries should be supportive to the members of their communities through partnership and collaboration with third parties or key stakeholders in the universities. This can be done through the support of education and lifelong learning, research and innovation, leisure, and scholarly communication (Corrall, 2023; Sipilí, 2015; Singh & Mishra, 2019). Moreover, the support for people can extend from the university community and go as far as the society at large. This can be in the form of donation to public libraries, social support, social transformation, and sociocultural activities (Adeyemi et al., 2024b; Corrall & Jolly, 2019).

Triple Bottom Line (TBL) theory is considered suitable for this study because it is anchored on the 3Ps, which include profit, people, and planet. While the profit concerns economic, people concerns society, the planet concerns the environment. These three constructs aptly capture what is obtainable in green library practices, which include economic, social, and environmental sustainability. While university libraries are not saddled with the responsibility of generating profit, this study views the economic sustainability from the perspectives of how university libraries maximise their economic/financial resources to provide optimum library and information services to their users. Thus, the "profit" construct of the TBL theory is revised to mean "provision" in this study. Hence, the 3Ps in this study include provision, people, and planet. The "people" construct, here, concerns the stakeholders in the university system, which may include students, faculty/lecturer, researchers, and other visitors. Meanwhile, the "planet" concerns the environmental implications of library routines and services in university libraries.

Implications

The Triple Bottom Line (TBL) Theory emphasises sustainability thorugh the integtation of profit (economic), social (people), and environment (planet). However, this study proposes that the profit should be replaced with "provision". This is because university libraries are not designed to generate profit. Practically, they are there to provide services, and these services have to be efficiently provided. This means that, while TBL theory is traditionally associated with business and corporate sustainability, this study seeks to offer an application of the theory for operations and strategies of university libraries, especially in the area of collection development. Contextually, the theory provides a balanced and sustainable approach to managing library resources by ensuring economic efficiency, social responsibility, and environmental awareness are all considered.

Provision (Economic Sustainability)

For the purpose of this study, provision replaces profit in the TBL theory. This emphasises that economically responsible acquisition, management, and dissemination of information resources. Collection development, which is one of the most resource-intensive library functions, must reflect judicious financial stewardship. With the shrinking budgets and rising costs of information resources, university libraries must prioritise cost-effective acquisitions such as open access resources, digital materials, and consortia-based acquisition. They must plan their acquisition to suit their economic viability, which is by priorising relevant resources and through collaboration. Moreover, economic sustainability entails the prudent maintenance of existing collections, which extends the lifespan of physical materials through proper preservation techniques and minimise unnecessary duplication. Moreover, strategies like reuse and repurposing of withdrawn or outdated materials – such as donating them to underserved institutions – can also support cost-saving and resource optimisation. These practices not only enhance the efficiency of resource utilisation but also help sustain the library's ability to meet users' needs in the long term.

People (Social Responsibility)

The "people" element of the TBL theory entails the societal impact of library services and the inclusivity of their offerings. In terms of collection development, this implies a responsibility to ensure that the library's holdings reflect the diversity and needs of its academic community, which includes students, faculty, researchers, and the broader society. University libraries must develop collections that support inclusive education, social equity, and lifelong learning. This includes acquiring resources that represent marginalised voices, support various learning styles, and promote accessibility for individuals with disabilities. Furthermore, socially responsive collection development involves collaboration with academic departments, student bodies, and other stakeholders in the university community to ensure the relevance and inclusiveness of resources. University libraries can also extend their social impact by supporting community initiatives, such as making scholarly publications/resources available to local public libraries or partnereing on projects that promote literacy and digital inclusion. By so doing, university libraries position themselves as active agents of social transformation and community development.

Planet (Environmental Sustainability)

The "planet" element of TBL theory highlights the environmental consequences of library practices, which encouarges libraries to develop collections in ways that reduce ecological footprints. In collection development, this may involve prioritising digital over print resources where feasible, which thereby maximises the environmental costs associated with paper production, transportation, and storage. The environmental cost of excessive print acquisitions can be significant, as the production and disposal of books and journals contribute to deforestation and waste. By adopting digital-first policies and investing in digital repositories (e.g., institutional repositories), university libraries can reduce their environmental impact. Moreover, university libraries can implement green practices such as responsible weeding (removal of outdated resources) and recycling, environmentally friendly storage methods, and energy-efficient systems for preservation. The integration of green technologies in cataloguing, acquisition, and user services can promote environmental sustainability within the university library ecosystem.

Conclusion

This study adopts Triple Bottom Line (TBL) theory in the contexts of university library in order to understand how green libraries extend service provision and the implications for collection development. The study indicates that the TBL theory is ordinarily for businesses and corporations with elements including profit (economic), people (social), and planet (environment). All of these three align with the elements of general sustainability. However, it can be relevant to discussion surrounding green library practices. This study remodified the "profit" element to "provision", which was underpinned in the argument that university libraries are not designed or established with the aim of generating profit but to provide library and information services. The study established that efficient management of information resources and library facilities can be used to understand economic sustainability of libraries. Moreover, the study established that the immediate community of university system, which include students, faculty/lecturers, researchers and the immediate university environment. The study concludes that the planet construct addresses issues of environmental implications of library services and routines.

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