



(RESEARCH ARTICLE)



## Information aggregation as potential for value addition to organizations: A review

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Global Journal of Engineering and Technology Advances, 2024, 19(02), 120–127

Publication history: Received on 10 April 2024; revised on 18 May 2024; accepted on 20 May 2024

Article DOI: <https://doi.org/10.30574/gjeta.2024.19.2.0085>

### Abstract

In the development of Kenya Vision 2030 Third Medium Term Plan (MTP III) 2018-2022, the Blue Economy (BE) sector was recognised as one of the emerging economic fronts that are expected to significantly contribute to Kenya's economic growth. Subsequently, there were calls to develop and manage a BE database. Despite these calls, there is currently no comprehensive database containing BE related data for Kenya, in an accessible manner to the public. As a response to these calls, our research team sought to explore different types of information aggregators. The study adopted exploratory design and reports the review of three aggregators. From the review results, the study proposed the design and development of a digital platform for aggregating information on the BE ecosystem in Kenya. The digital platform provides potential value addition to the host organisation in the form of: attracting external funding; raising its reputation and online visibility and adding value to the community.

**Keywords:** Information Aggregation; Value Addition; Digital Platforms; Blue Economy; Review

## 1. Introduction

### 1.1. Background Information

The Blue Economy (BE) concept refers to the sustainable use of water resources (including oceans, seas, coasts, lakes, rivers, underground water), for economic growth and ecosystem health. It encompasses a number of productive sectors, including: fisheries; aquaculture; mariculture; blue tourism; transport; shipbuilding; energy; bioprospecting; and underwater mining and related activities (African Union, 2014; African Union Commission, 2014; UNECA, 2016; World Bank & United Nations Department of Economic and Social Affairs, 2017). Figure 1 shows the different components of the BE ecosystem.

Globally, the BE concept largely contributes to the attainment of goal 14 – life below water – of the United Nations 2030 Agenda for Sustainable Development Goals (SDGs) (UN, 2015). The BE concept also contributes to the attainment of other SDGs namely: SDG 1 – no poverty; SDG 2 – zero hunger; SDG 7 – affordable and clean energy; SDG 8 – decent work and economic growth; SDG 12 – responsible consumption and production; SDG 13 – climate action; and SDG 17 – partnerships for the goals.

Regionally, the African Union's (AU) Agenda 2063 recognises the BE as a potential major contributor to the continent's transformation and growth. This is demonstrated by the development of the 2050 Africa Integrated Maritime Strategy (AIMS) and the Africa Blue Economy Strategy (African Union, 2014; AU-IBAR, 2019).

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In Kenya, the BE sector was recognised as one of the emerging economic fronts that are expected to significantly contribute to Kenya’s economic growth as envisaged in the long-term development of Kenya Vision 2030. Due to this potential, it was added as the eighth priority sector under the economic pillar during the Third Medium Term Plan (MTPIII) 2018-2022 of Kenya Vision 2030 (GOK, 2018).

Type of ecosystem services	Blue Economy sectors
Harvesting of living aquatic resources (seafood, plant marine organisms, and marine-biotechnological products)	Fishing (inland, coastal, and deep seas) Aquaculture Mariculture Pharmaceuticals, chemicals, cosmetics, genetic research
Extraction of nonliving resources and generation of new energy resources	Deep-sea and seabed mining Offshore oil and gas Renewable energy Marine salt harvesting Coastal mining of sand, gravel, and other construction materials
Commerce and trade in and around the ocean and rivers	Maritime transport and services Port infrastructure Shipbuilding and repairs River transport Tourism and recreation
Protection	Coastal protection Marine ecosystem protection Water resource protection
Cultural and religious values	Cultural and religious practices
Knowledge and information	Biophysical, socioeconomic, and political research

Source: (UNECA, 2016, p. 6)

**Figure 1** Key BE ecosystem services and sectors

The Government of Kenya additionally demonstrated its commitment towards the BE by hosting the global Sustainable Blue Economy Conference (SBEC) in November 2018 in Nairobi. The conference attracted 16,320 participants from 184 countries, including 7 Heads of State and Government, 84 Ministers and several Heads of International Organisations. The conference resulted in among others, the Nairobi Statement of Intent on Advancing a Sustainable Blue Economy, a document that contains a number of key political commitments (SBEC, 2018). The commitment to BE is further demonstrated by the Government of Kenya co-hosting the Second UN Ocean Conference with the Government of Portugal in Lisbon in June-July 2022.

### 1.2. Statement of the Problem

The BE sector was recognised as one of the emerging economic fronts that have significant potential to contribute towards Kenya’s economic growth as envisaged in the long-term development of Kenya Vision 2030 (GOK, 2018). As a result, BE was added as the eighth priority sector under the economic pillar during the Third Medium Term Plan (MTPIII) 2018-2022 of Kenya Vision 2030 (GOK, 2018)

However, there is no integration and coordinated development in the BE among the various institutions in Kenya, as well as availability of a comprehensive plan and database on the BE (AU-IBAR, 2019; GOK, 2018). Such a plan and database are required for the implementation of BE. Additionally, the current BE ecosystem in Kenya encompasses a linear, compartmentalised, siloed and sectoral approach with weak connections, linkages, and synergies between various scales of intervention as well as among the sectors concerned (UNECA, 2016).

As a result of these challenges, there were calls to embrace collaboration and knowledge sharing (Rasowo et al., 2020); and to develop and manage a BE database (GOK, 2018). There were additional calls for conducting research on the promotion of investments and development of innovative technologies for value addition in the BE, as well as sensitisation and awareness creation of the population about the BE (GOK, 2018).

Despite these calls, there is currently no comprehensive database containing BE related data for Kenya in an accessible manner to the public.

### **1.3. Objective of the Study**

The goal of this study was to explore different types of information aggregators that serve different types of users in different sectors, drawn from a global, regional and local perspective. The aim was to draw lessons and inspiration with the specific objective of proposing the design and development of a digital platform for aggregating information on the BE ecosystem in Kenya.

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## **2. Methodology**

This study adopted exploratory research design (Yin, 2017). It reports the review that was conducted on three select digital platforms that aggregate information in diverse sectors. The aggregators had information in the following areas: startups and innovations in India; research funding opportunities for eligible researchers in Africa; and business regulatory framework in Kenya. Being part of a broader research study, empirical data was not collected and analysed.

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## **3. Results**

Information aggregators are computer applications that collect information from a wide range of sources, with or without prior arrangements, and add value by providing post-aggregation services (Athey et al., 2021). They usually collect information from various sources, such as the Internet, diverse databases, company websites, and results of searching engines. Information aggregators can be referred to as platforms.

Platforms play an important role as intermediaries. They bring together two sides of a market, can facilitate transactions, and provide information that consumers then use for making decisions (Chiou & Tucker, 2015). Platforms consolidate content from multiple sources into one place, thereby lowering the transactions costs of obtaining content and introducing new information to consumers.

The literature review provides three different types of information aggregators that serve different types of users in different sectors. They are drawn from a global, regional and local perspective.

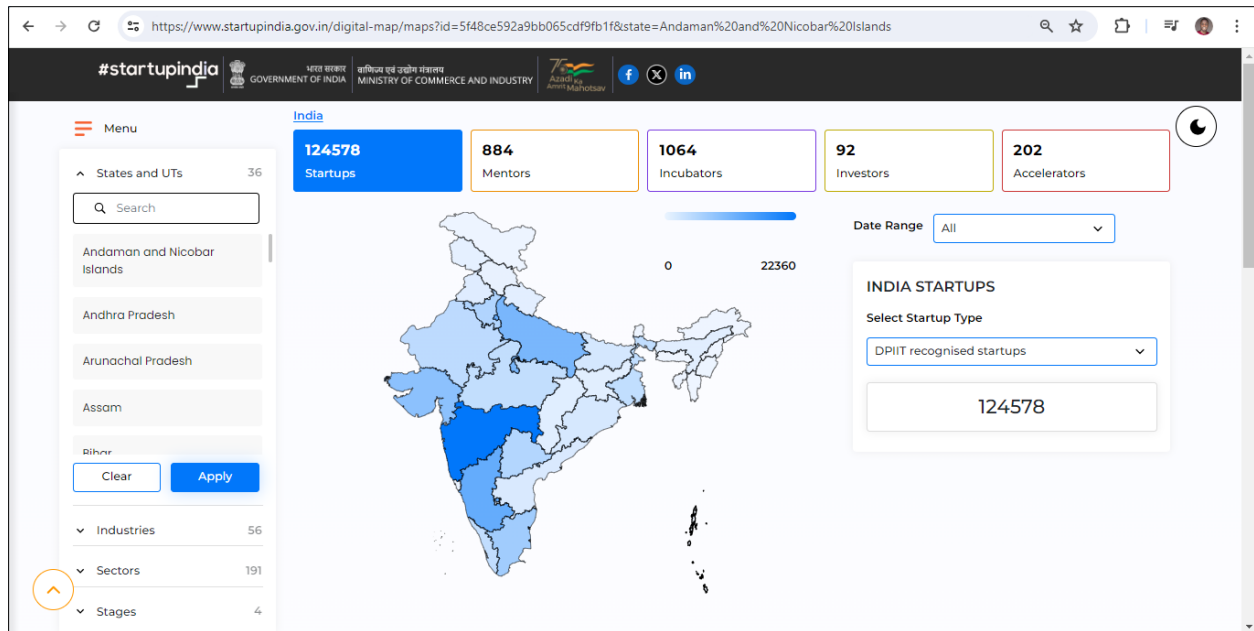
### **3.1. Globally: Startup India Hub**

Startup India Hub (<https://www.startupindia.gov.in>) is a digital platform that aggregates information about India's startup ecosystem. It was created with the intention of spurring innovation in order to accelerate job creation. It was initiated by the Government of India in the year 2016 and has been undergoing continuous upgrading and updating of functionalities.

The Hub started as a one-stop shop digital platform to link the entire startup ecosystem in India and to help people who wished to start their own businesses. It was for people who had ideas and capabilities but were unable to actualise them due to financial or other related issues. Additionally, it was to reduce asymmetry in information flow as well as supporting startups. It facilitated knowledge exchange and availed resources to entrepreneurs.

The portal serves to provide access to information; learning programmes; knowledge sharing, government schemes; state-specific policies; industry innovation programmes and challenges, mentoring and networking opportunities; and free resources to the startup community.

The platform lists 124,578 startups recognised by the Department for Promotion of Industry and Internal Trade (DPIIT), 884 mentors, 1,064 incubators, 92 investors and 202 accelerators, spread all across India. Figure 2 shows a screenshot of the digital maps for the Startup India Hub online platform



Source: (<https://www.startupindia.gov.in/digital-map/maps>)

**Figure 2** Startup India's Digital Map

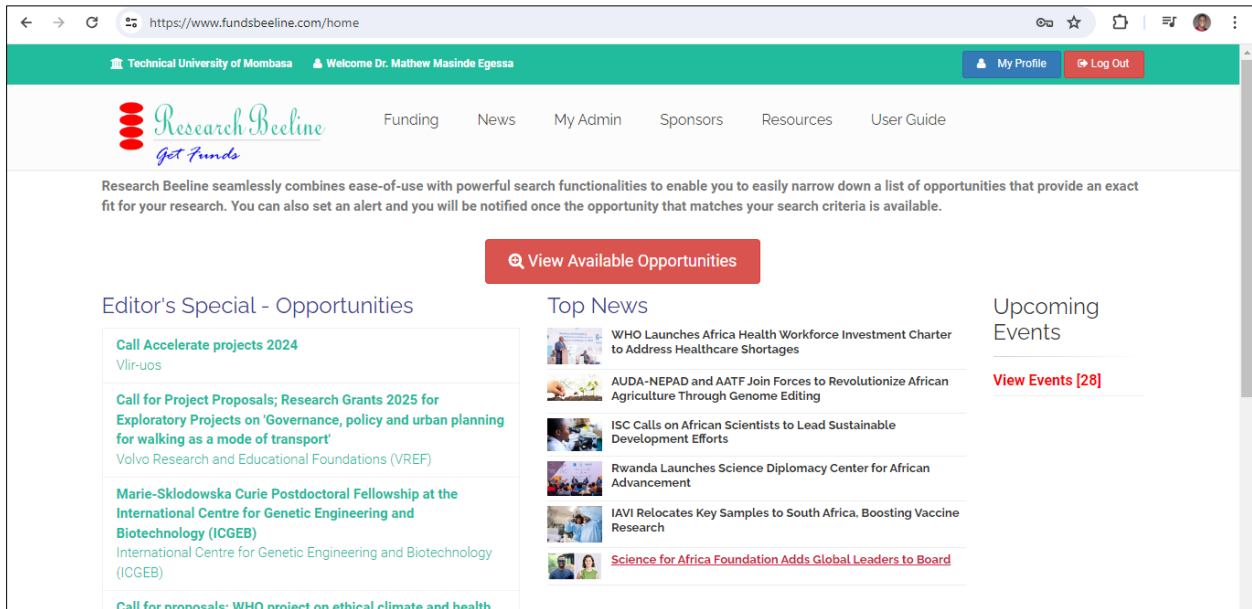
### 3.2. Regionally: Funds Beeline

Funds Beeline (<https://www.fundsbeeline.com>) is an information aggregator for research funding opportunities, news and mentorship. It is a platform that exists to support research managers in Africa to advance their institutions research objectives. It does so by supporting researchers with a relevant and reliable source of information specifically targeting Africa. Funds Beeline has subscriptions from a number of African universities spanning over ten African countries including: Kenya, Uganda, Ghana, Malawi, Zambia, Zimbabwe, Namibia, Tanzania, South Africa, Nigeria and Ethiopia.

Funds Beeline runs a comprehensive database of funding opportunities by crawling the internet and performing online research for opportunities; analysing and summarising them; posting and publishing on the platform; running quality control checks and getting feedback with grant makers.

Funds Beeline also covers news on research developments locally and globally, for example, collaborations, people, research developments, policies and upcoming events. It also provides a reliable source of research insights across the research funding landscape. Funds Beeline gives an overview of all the funders in their platform. It provides research support such as useful information on the different grant makers, application requirements and tips to help researchers win grants; and gives best practices on research management practice from across the globe.

Some of the features in the platform include: keyword search; filtering capabilities such as filtering by funder, research area, category/ discipline, type of funding, dates one requires the funding and nationality; bookmarking capability; emailing opportunities; and saving search capabilities with alert settings. Figure 3 shows Funds Beeline's logged in user homepage.



Source: (<https://www.fundsbeeline.com>)

**Figure 3** Funds Beeline’s Logged in User Homepage

### 3.3. Locally: Kenya Business Regulatory Guide

In Kenya, digital platforms have been championed by both the national and county governments, as well as other organisations. The platforms have had a myriad of effects on the performance of the said organisations, both positive and negative (Egessa & Manyasi, 2016; Egessa & Musau, 2016).

In the year 2014, the Government of Kenya created a Business Environment Delivery Unit, with membership drawn from multiple departments, agencies and ministries, in order to improve the business environment. In partnership with the private sector, the delivery unit was tasked with spearheading the implementation of business reforms.

In the year 2018, the Department of Business Reforms and Transformation (DBRT) (Ease of Doing Business) was created within the Ministry of East Africa Community and Regional Development, to be a dedicated and resourced organ to implement initiatives that would make Kenya more competitive locally, regionally and globally.

DBRT, with the support of UK Kenya Tech Hub and other partners created an SME Business regulatory toolkit, with the aim of helping SMEs:

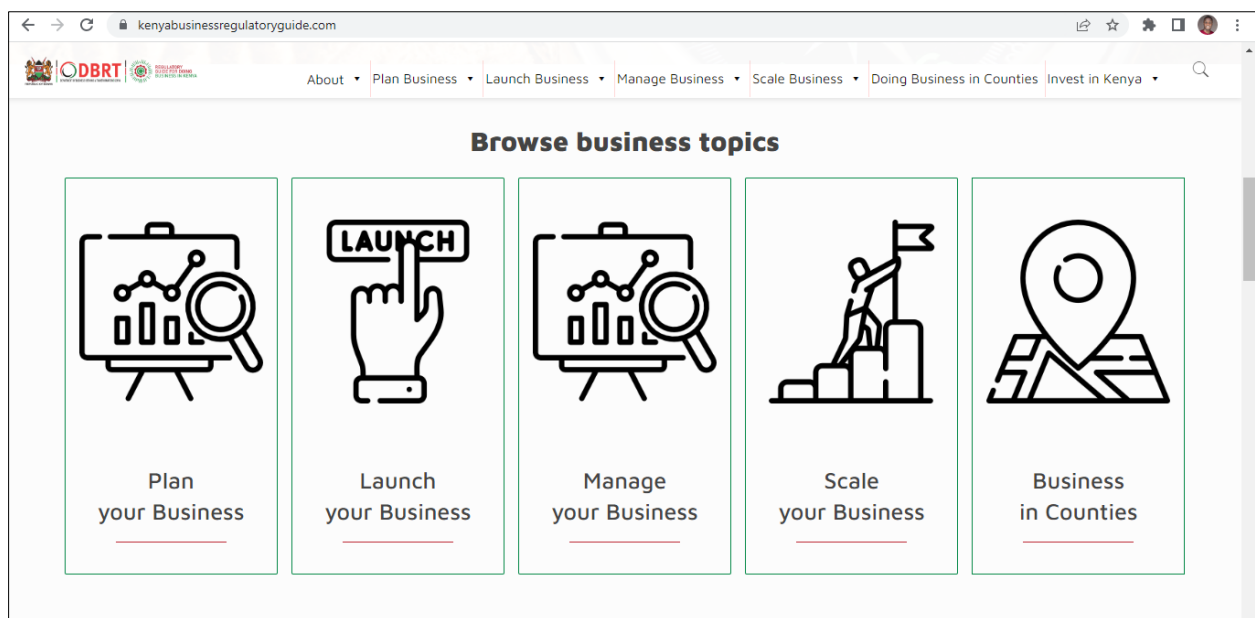
- Engage with and understand the Kenyan regulatory environment in an easy and accessible manner
- Develop awareness to unblock regulatory barriers and enable SMEs in navigating regulatory complexities
- Assist in refining Kenya’s business regulatory environment through feedback

The toolkit is available online (<https://www.doingbusinesskenya.go.ke/>), with an interface that is easy to navigate and with all related information in one place. The toolkit is segmented into four key business development stages and expounds the regulatory requirements as well as identifies key regulators within each stage using the following as links:

- Plan Your Business
- Training and Capacity Building
- Finance
- Market Information
- Intellectual Property
- Research and Development
- Support Agencies
- Launch Your Business
- Application for Single Business Permit
- Sector Specific Regulations

- Launch Stage Regulators
- Manage Your Business
- Regulators
- Statutory Deductions
- Intellectual Property
- Product Quality Standards
- Business Support
- Human Resource
- Dispute Resolution
- Counties
- Grow Your Business

The toolkit across the four stages provides guidance for regulations and support agencies that are cross cutting to all business as well as to the following identified sectors: agriculture; education; energy; health; manufacturing; tourism; ICT; finance; import-export; and construction. Figure 4 depicts Kenya Business Regulatory Guide’s homepage.



Source: (<https://www.doingbusinesskenya.go.ke>)

**Figure 4** Kenya Business Regulatory Guide’s Homepage.

### 3.4. Proposed Next Steps

We propose to borrow from the three different information aggregators discussed in the previous section. Unlike the Startup India Hub which focusses only on start-ups and is open to all sectors; the Funds Beeline that focusses on research funding opportunities and news; or the Kenya Business Regulatory Guide which focuses on guidance to SMEs; we propose a digital platform with the sole focus on BE related ecosystem players in Kenya. It should list all the entities that are economically engaged in any BE related value chain in Kenya. It should additionally map all the ecosystem players and display the maps.

The digital BE ecosystem platform should be a one stop shop for all BE related information: opportunities; events; and ecosystem actors (including the products and services they offer and the actors’ GPS locations on a map). It should serve as a knowledge platform for peer-to-peer sharing of best practices.

The developed digital BE ecosystem platform should have potential to be commercialised. The monetisation could take two forms:

- Having development partners and interested donors to fund the continuous development and maintenance of the platform. We highly recommend this option, given the context in Kenya.
- Having the platform behind a paywall where subscribers pay to access the aggregated information

- The possible value addition trajectories of the developed digital BE ecosystem platform to an organization include:

Attracting external funding: the developed digital platform for the BE ecosystem will be a response to the calls in Vision 2030 MTPIII and Big Four Agenda, Africa Union Agenda 2063 and United Nations' SDGs. Such alignment is what is desired by development partners. Since the project location will be based in Kenya, the results will form a basis for developing a funding proposal to be submitted to external funders to scale the project.

Adding value to an organisation: Having the digital platform for BE ecosystem domiciled in an organization will raise its reputation and visibility. Since there is currently no comprehensive database containing BE related data for Kenya in an accessible manner to the public, the developed digital platform will be the first of its kind. It will be a one stop shop for all BE related information: opportunities; events; and ecosystem actors (including the products and services they offer and the actors' GPS locations on a map). It will serve as a knowledge platform for peer-to-peer sharing of best practices. Eventually, most web traffic regarding BE in Kenya will somehow connect to the organisation, leading to better Google Search and Web rankings.

Adding value to the community: The platform will provide useful information to those who would like to venture into any BE economic activity. It would also serve as a marketing tool for those entities already engaged in BE since their information will now be available on a one-stop shop for all BE ecosystem related information. The knowledge sharing on the platform will allow people to get information on the best practices for various BE related activities.

The intended target users of the system will be individuals; micro, small and medium scale enterprises (MSMEs); organised groups such as youth groups, women groups, community-based organisations, faith-based organisations, non-governmental organisations, corporations, government entities; and all other entities interested in the BE.

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#### 4. Conclusion

From the information aggregators reviewed: Startup India Hub; Funds Beeline; and Kenya Business Regulatory Guide, there are potential benefits to the organizations hosting them. The proposed digital BE ecosystem platform will potentially have commercial value to the hosting organization. Additionally, it will raise the reputation and online visibility of the host. Finally, it will be beneficial to the wider society as a knowledge sharing platform for BE related activities.

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#### Compliance with ethical standards

##### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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