



ACPA 7003 – International Innovation Management

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1.0 Synopsis

Based in Wales, Organisation X has stated it is looking to strategically position itself to control the manufacture and distribution of their products on a global scale.

This report is a review of the sites identified and shortlisted by Organisation X, as possible locations for manufacturing sites in South America, Asia, and Africa.

2.0 Market Place

Organisation X produces a range of products from home security cameras that can be accessed remotely using mobile phone technology and an app through to commercial CCTV systems. They also produce human access control systems using body temperature scanners with face mask scanners which have proved very popular due to the Covid pandemic.

They are now developing retinal scanners, taking the product to the next level by identifying individuals with the necessary clearance to access buildings.

According to Mordor Intelligence the global CCTV market will be worth \$90.37 Billion by 2026 and is growing at a rate of 9.31% because of growing safety and security requirements plus developments in cloud computing and surveillance software. There are five major players in the market Honeywell Security, Samsung, Panasonic, FLIR systems and Schneider Electric, however the market is still highly competitive with no dominant manufacture, offering opportunities for Organisation X

Retinal scanners although linked to CCTV and access systems are classed as a different marketplace, the Biometrics Industry was worth \$27.09 Billion in 2020 and according to Mordor Intelligence is expected to grow to \$62.52 Billion in 2026, a growth factor of 15.2%. The five major player in this market are different to the CCTV marketplace – Fujitsu, M2SYS Technology, NEC, Thales, and Leidos Holdings. However, this market is sub divided into numerous smaller sectors including Type (Hardware, Software, and Services), Biometric Type (IRIS Recognition, Hand Geometry, Facial Recognition, Signature Verification, Fingerprint, Voice Recognition, Palm Vein)

Organisation X will be a late entrant to the marketplace for both retinal scanning and access control systems.

3.0 Locations identified

Organisation X have identified nine locations over three continents in the Southern hemisphere as possible sites for their expansion plans

South America

- Chihuahua (Mexico)
- Montevideo (Uruguay)
- Sao Paulo (Brazil)

Asia

- Shenzhen (China)
- Visakhapatnam (India)
- Taipei (Taiwan)

Africa

- Durban (South Africa)
- Bulawayo (Zimbabwe)
- Tunis (Tunisia)



4.0 Method of Evaluation

There are numerous different ways to evaluate potential new sites including:

Analytic Hierarchy Process (AHP) a mathematical equation that “The AHP enables the decision maker to structure a complex problem in the form of a simple hierarchy and to evaluate a large number of quantitative and qualitative factors in a systematic manner under conflicting multiple criteria” (Badri, 1998)

M.A.Badri developed Goal Programming Model (GP) making location-allocation decisions in an international setting whilst considering multiple conflicting factors. (Badri, 1998)

However, for the purpose of this report, sufficient indicators can be ascertained, by combining the key factors, identified in, a Delphi study on Factors affecting location decisions in international operations. (MacCarthy & Atthirawong, 2003)

To be used in conjunction with location factor ratings from a study “Evaluating the Importance of Business Location Factors: The Influence of Facility Type” (WILLIAMS, Evaluating the Importance of Business Location Factors: The Influence of Facility Type, march 2013)

Research information was also used from WIPO Global Innovation Index 2021 (GII) using the Economy Comparison tool and identifying locations listed as Smart Cities. (Global Innovation Index, 2022)

5.0 Key Factors affecting location decisions

Key factors may vary slightly between industries and services, but the main points of consideration can be categorised using PESTLE headings.

5.1 Political Factors

- Tax incentives and other privileges from the host government -
- Access to markets – trading agreements in place with no international restrictions or embargos
- Opportunity to counterattack against competitors – freedom to trade against competition with no barriers
- Political stability - avoiding international disputes, war, civil unrest, and stable regimes.
- Trade \ group membership – e.g., Asia Pacific Trade agreement or ASEAN etc
- Historic relationships between host and home countries – UK has positive links with Commonwealth countries e.g., India but must work harder at relations with China.

5.2 Economic Factors

- Availability and Price of land – Cheap land reduces the value of investment required, reducing operating costs and increases the potential for a return on investment (ROI).
- Productivity – It is important to review productivity in countries before investing in a factory that relies on high productivity.
- Access to low labour costs and labour skills, to minimise the cost per unit the cheaper the labour the greater the reward, however there is a trade off between employing skilled and non-skilled workers.
- Access to host raw materials and technology.
- Quality and reliability of utilities.

5.3 Social Factors

- Labour characteristics.
- Quality of labour force.
- Availability of labour force.
- Wage rates.
- Motivation of workers.
- Language.

- Local customs and practises.
- Quality of life, locally, regionally, and nationally.

5.4 Technological Factors

- Quality of Telecommunication system.
- System and integration costs.
- Availability of management resources and specific skills.
- Adoption of International Standards.

5.5 Environmental Factors

- Quality of infrastructure.
- Access to Air, Road, Rail, and Ports.
- Existence of modes of transportation for employees and product.
- Quality and reliability of modes of transportation for employees and product.

5.6 Legal Factors

- IP Legislation & Protection.
- Local legal system and laws.

6.0 Evaluation of Locations

Having researched the listed key factors affecting the nine locations identified by Organisation X the following recommendations are made in sequential order:

6.1 South America – all three cities have attractive strengths and identified weak points. Although, closely matched there is a first choice:

1.Sao Paulo (Brazil) has cause to be the most attractive proposition. This location scores best for work force, technical development, and sophistication of the business network. However, government stability is a major concern. It also has the lowest average income of the three candidate countries. (Trading Economics, 2022)

2.Montevideo (Uruguay) has stable institutions and a good infrastructure with access to port facilities but has an underdeveloped marketplace and work force. (Global Innovation Index, 2022)

3.Chihuahua (Mexico) although, a strong candidate with proximity to the US border and marketplace and a growing technical industrial base there are negative aspects with government stability, social issues and critically poor access to Sea ports that may prove challenging. (Global Innovation Index, 2022)

6.2 Asia – There are some very well-defined factors to consider with all the Asian city candidates, developmentally and technologically. These three are all very strong contenders, ideally placed for manufacturing and distribution:

1. Visakhapatnam (India) has cause to be a serious candidate because of the ease of language, culture, legal systems, and cultural relations, although developing fast, it is the least industrially of the developed Asian choices, however, it also has the most attractive cost savings with land and labour being notably cheaper than the other two. (Global Innovation Index, 2022)

2. Shenzhen (China) is the most developed of the three cities. The Chinese economy and marketplace are powering ahead and in the very near future will be the largest in the world. However, there would be concerns with the protection of IP and adapting to learning to work the Chinese way. Would the company be prepared to work with a partner to improve the chances of a successful outcome? (Global Innovation Index, 2022)

3. Taipei (Taiwan) is on the cutting edge of technology and manufacturing and as a result costs are high, there is also the political shadow of China reclaiming Taiwan in the future, causing uncertainty with returns on high value investments. (For political expediency Taiwan does not appear on the Global Innovation Index). (Global Innovation Index, 2022)

6.3 Africa – Of the three continents listed Africa is the most underdeveloped in nearly all aspects, but it has the cheapest land available. (Trading Economics, 2022)

1. Durban (South Africa) is potentially, the most attractive of the three African cities having the most developed economy and infrastructure, but as a result it also has the highest average pay. (Global Innovation Index, 2022)

2. Tunis (Tunisia) has a pool of technically trained employees and cheap labour but has an underdeveloped economy and infrastructure. (Global Innovation Index, 2022)

3. Bulawayo (Zimbabwe) is the most underdeveloped of the three cities and it has the poorest infrastructure. Bulawayo is in a politically unstable country with high rates of inflation, and it has no direct access to a port. The inclusion of this city raises questions and concerns relating to the selection process of the various sites. (Global Innovation Index, 2022)

7.0 Summary

What is the overall Growth Strategy? The investigation as highlighted there are questions to be answered regarding:

How the company proposes to grow, possibly including income and investment targets?

Is opening three factories on three continents as a new entrant to a market / as an unestablished business a high-risk strategy?

Is there a business strategy?

Does the company have the capacity to offer training and the internal skills to develop a team to work, alongside, any new teams in any new factories? (Whether it be one or three new sites)

Which market is the company going to focus their efforts on – CCTV hardware, and systems or Biometrics and Software?

What support will be required to develop software for new developments?

Is there an in-house R & D capability?

8.0 Recommendations

In support of the Overall Growth Strategy, it may be prudent to review the product range currently in production and potential (NPD) future developments. Gathering Market Intelligence insights for how new products will get to market.

A product portfolio and innovation pipeline audit are recommended.

Identifying any external stakeholder relationships that could potentially, be developed to enhance the business through, working with software developers, academic institutions or configuring networks to create value to other products, or open innovation partnerships, may be crucial to the organisation's future growth plans.

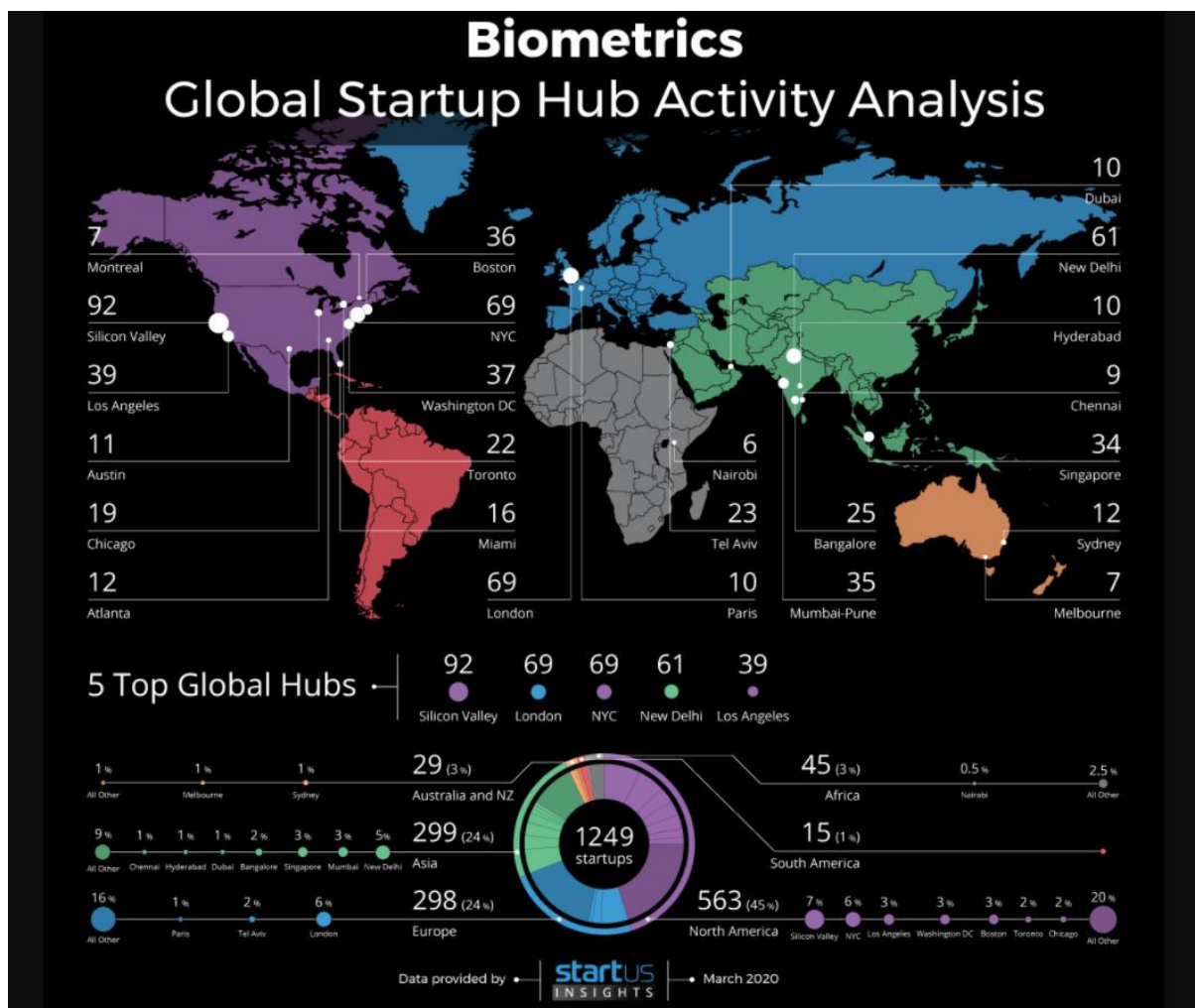
The Business Growth Plan could then be developed, where the number of factories and a value of investment could be identified, scaled against ROI.

There is an opportunity to identify possible new factory locations. Through a defined brief.

This could be written, defining the key attributes the company is looking for in a location. (The list of nine locations on three continents contained an eclectic mix of results, this may be the result of a poor selection process or a lack of clearly defined plan and strategy).

Should this be the case, a new brief defining the company's objectives, business strategy and culture would assist the search for new locations. It is recommended this begins from scratch, as at this point, we are unaware of any defined indicators, illuminating the criteria from which the current locations have been selected.

The map below identifies other possible locations in Biometric hot spot growth areas.



(Startus Insights, 2022)

From the point of view of the consultancy, there is an opportunity to provide a bespoke, uniquely designed mathematical calculation to systematically identify suitable locations – for a fee.

Organisation X would benefit from a programme to adopt and conform to the basic principles of ISO 56000 as detailed in next section of this report.

9.0 ISO

What are the potential benefits of adopting ISO56000 standards?

ISO56000 are a set of internationally recognised standards that sets out a defined baseline, setting standards for innovation, covering definitions, tools, frameworks and methodologies for quality innovation management” and is an evolving playbook of support tools and methods that have been developed by international experts. (ISO, 2020)

9.1 Benefits

As Organization X grows it would reap the benefits of adopting ISO56000 standards as early as possible, even before expanding its manufacturing capability. Currently there is little evidence from Organisation X that it follows any of the standards identified by ISO56000 as a company.

Laying the foundations of international standards into the company DNA at early stage will ensure there is a universal understanding of terminology, an established innovation management system /

cultural understanding and development, plus an awareness of innovation activities throughout the organisation.

As the company develops, launching innovative new products and opening facilities in different locations on an international scale, the organisation will then be able to maintain and sustain itself through maintaining innovation, improving economic viability and the well being and development of society.

9.2 Introducing the ISO56000 framework

The introduction of ISO56000 needs to start with two actions, firstly the company needs to begin a process to embrace the acceptance of a universal standard (onboarding) and secondly an innovation audit should be conducted to establish a strategy for implementing ISO56000.

ISO56000 Innovation management - fundamentals and vocabulary, sets out to ensure coherence and consistency in vocabulary and technical terminology for Innovation.

ISO56002 Innovation management — Innovation management system — gives guidance for organizations to establish, implement, maintain, and continually improve their innovation management system.

ISO TR 56004 Innovation management assessment — provides guidance for organizations to plan, implement and follow-up on an innovation management assessment.

ISO 56003 Innovation management — Tools and methods for innovation partnership — provides guidance for organizations working together to innovate.

9.3 ISO56000 Innovation management - fundamentals and vocabulary.

Implementing standard and defined terms will standardise vocabulary and understanding and use of terminology.

Standardisation is key to maintaining successful innovation – an example of the impact from failing to standardise is found in an article in the Los Angeles Times about a \$125 million error made by two different teams working on the Mars Climate Orbiter, in December 1998. It crashed onto the surface of Mars after a programming error mixing up metric and imperial units caused it to have a misdirected flight path. (L A Times, 1999)

Understanding the fundamental concepts of Innovation in an organisation can promote the activity from a dark art practised by a department into a company culture, helping the organisation to make changes that will help it secure prosperity, sustainability, longer term relevance and survival.

9.4 ISO56002 Innovation Management.

This is probably the most critical document that Organisation X need to study and adopt.

This is a generic document that gives guidance for organisations to establish, implement, maintain, and continually improve an Innovation Management system. Adopting this system will support the management to determine innovation vision, strategy, policy, and objectives.

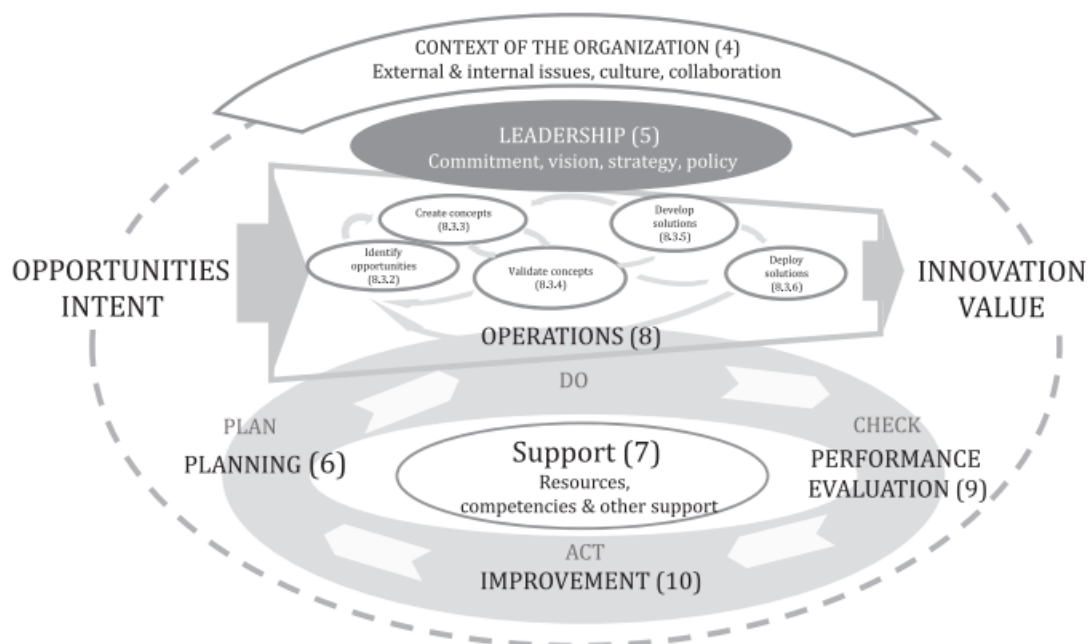
This list of possible benefits that can be attained through the adoption of an Innovation Management System are:

a) An increased ability to manage uncertainty.

- b) Increased growth, revenues, profitability, and competitiveness.
- c) Reduced costs and waste, and increased productivity and resource efficiency.
- d) Improved sustainability and resilience.
- e) Increased satisfaction of users, customers, citizens, and other interested parties.
- f) Sustained renewal of the portfolio of offerings.
- g) Engaged and empowered people in the organization.
- h) Increased ability to attract partners, collaborators, and funding.
- i) Enhanced reputation and valuation of the organization.
- j) Facilitated compliance with regulations and other relevant requirements.

An Innovation Management system is a set of interrelated and interacting elements, that ultimately relies on the commitment, understanding, leadership and support of top management.

The Plan, Do, Check, Act cycle is used to illustrate the framework of the innovation system as a reference to the document.



9.5 ISO Culture

The management need to set the tone in the company to develop a culture that supports innovation, allowing creative and operational mindsets to work alongside each other. This is according to Alice De Casanove (Culture Evolution specialist, Intrapreneurship Airbus North America) who gave an insight to the management development of culture of innovation within Airbus.

Starting with the development of understanding the innovation process and practises, and then moving to encourage:

- a) openness, curiosity, and user focus.
- b) encouraging feedback and suggestions.
- c) encouraging learning, experimentation, creativity, change, and challenging current assumptions.
- d) encouraging risk-taking and learning from failure while keeping people engaged.
- e) networking, collaboration, and participation internally and externally.
- f) diversity, respect, and inclusiveness of different people, disciplines, and perspectives in innovation activities.
- g) shared values, beliefs, and behaviours.
- h) balancing assumption-based and evidence-based analysis and decision-making.
- i) balancing linear and non-linear planning and processes.

9.6 Leadership

The management must understand managing a change in working culture and behaviours. They must champion a commitment to Innovation activities and communicate this decisively.

Leading the changes in the business should require an Innovation strategy and Innovation policies to be written in advance of changes, but with the flexibility to adapt as a by-product of innovation or behaviour changes.

9.6.1 Planning

Innovation objectives should be consistent with the innovations policy, measurable, monitored as well as communicated and understood. An Innovation portfolio should be established, managed, and regularly evaluated

9.6.2 People

Identifying, attracting, retaining, and developing people needs to be recognised and planned by the management to sustain the implementation of the Innovation management system. Planning needs to put into the selection of diverse teams for innovation activities.

9.6.3 Competence

The organisation should ensure they understand existing competency and have the commitment to develop and improve competency as required.

9.6.4 Communication

Awareness and engagement should be maintained through targeted and planned communication using as many different forms as possible internally and externally.

9.6.5 IP Management

As part of an Innovation Strategy the company should identify its approach to Intellectual property. How, when, and where to protect selected IP assets.

10.0 Innovation process

The innovation process should be flexible adaptable and dependant upon the types of innovation involved and the circumstances of the organisation.

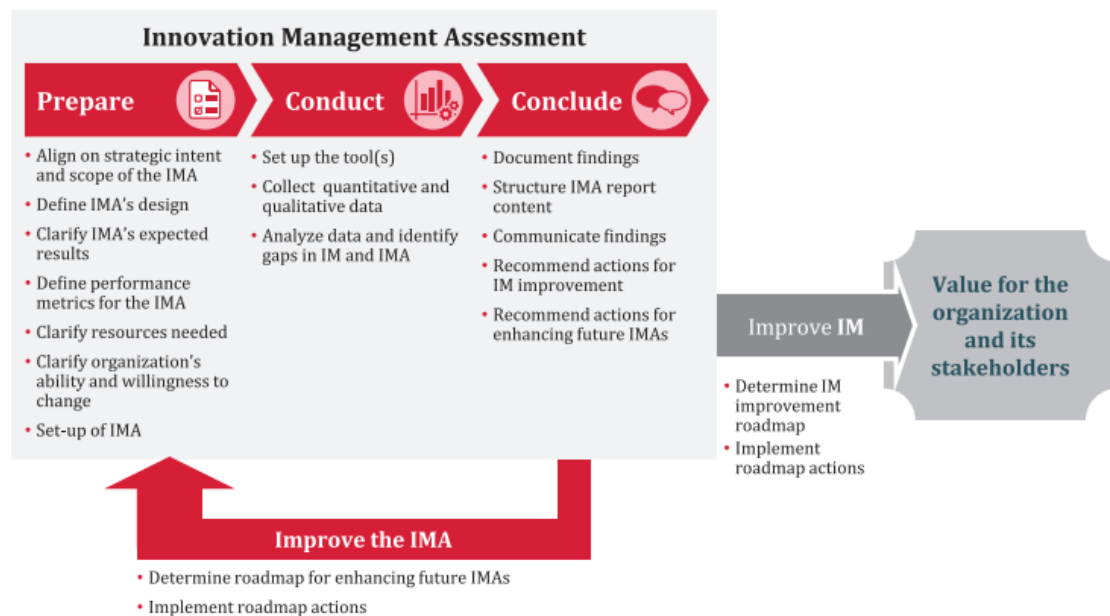
Innovation projects can work with other processes in an organisation. E.g., Research, Marketing, Sales etc.

11.0 Performance Evaluation

The organisation should determine a system for monitoring, measurement, and evaluation to ensure valid actions and results.

12.0 Conclusion

Overall, when considering organisation X. It is unclear where they are in their business journey, what their objectives are and how their culture will fit an international expansion. Further evidence is required to develop an understanding of why the organisation wants to expand into an international arena.



Without a visible business plan, clear objectives, relevant data collation and an innovation strategy, that states the clear processes set out in the ISO framework, it is unlikely the organisation will fulfil its desire for a sustainable and prosperous future.

Bibliography

- Badri, M. A. (1998). Combining the analytic hierarchy process and goal programming. *Interntionl journal of Production Economics for global facility location-allocation problem*, 12.
- Biometric Update.com. (n.d.). *Biometric Update .com*. Retrieved from Biometric Update .com: <https://www.biometricupdate.com/white-papers>
- Blind, K. (2013, November). *The Impact of Standardization and Standards on Innovation*. Retrieved from Nesta.org.uk: https://media.nesta.org.uk/documents/the_impact_of_standardization_and_standards_on_innovation.pdf
- Briefing Paper. (2020). *Legal Analysis of International Trade Law and Digital Trade*. Policy Department, Directorate-General for External Policies.
- Digital Leaders. (2021, Jan 24). *A Closer Look at ISO 56002 Innovation Management System*. Retrieved from Digital Leaders: <https://glweb.eu/blog/digital-transformation/159-ims>
- Dirk Willem te Velde, N. B. (June 2018). *MANUFACTURING IN AFRICA*:. Acara: Supporting Economic Transformation.
- Global Innovation Index. (2021). *Economy Comparison*. Retrieved from Global Innovation Index: <https://www.globalinnovationindex.org/analysis-comparison>
- Global Innovation Index. (2022). *ANALYSIS*. Retrieved from global Innovation Index: <https://www.globalinnovationindex.org/analysis-comparison>
- HOTZ, R. L. (1999, October 1st). *Mars Probe Lost Due to Simple Math Error*. Retrieved from Los Angeles Times: <https://www.latimes.com/archives/la-xpm-1999-oct-01-mn-17288-story.html>
- International Monetary Fund. (2022, Feb). *GDP current prices*. Retrieved from Imternational Monetary Fund: <https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD>
- ISO. (2020). *ISO56000*.
- L A Times. (1999, Oct 1). *Mars Probe Lost Due to Simple Math Error*. Retrieved from L A Times: <https://www.latimes.com/archives/la-xpm-1999-oct-01-mn-17288-story.html>
- Lanvin, S. D. (2021). *Global Innovation Index (GII)*. Geneva: WIPO. Retrieved from WIPO: https://www.wipo.int/global_innovation_index/en/
- MacCarthy, B. L., & Atthirawong, W. (2003). Factors affecting location decisions in international operations -- a Delphi study. *International Journal of Operations & Production Management*, 25.
- Madgavkar, N. K. (Aug 2016). *India's ascent: Five opportunities for growth and transformation*. Mumbai: Mckinsey & Company.
- Mordor Intelligence. (2021). *GLOBAL BIOMETRICS MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)*. Hydrabad: Mordor Intelligence.

- Mordor Intelligence. (2021). *VIDEO SURVEILLANCE SYSTEM MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)*. Hyderabad: Mordor Intelligence.
- Myers, J. (2016, Oct 19th). *How do the world's biggest companies compare to the biggest economies?* Retrieved from World Economic forum:
<https://www.weforum.org/agenda/2016/10/corporations-not-countries-dominate-the-list-of-the-world-s-biggest-economic-entities>
- Myers, J. (2020, Feb 19th). *India is now the world's 5th largest economy*. Retrieved from World Economic Forum: <https://www.weforum.org/agenda/2020/02/india-gdp-economy-growth-uk-france/>
- Robert Allen, R. D. (2000, July 01). *The Role of Standards in Innovation*. Retrieved from NIST (The National Institute of Standards and Technology): <https://www.nist.gov/publications/role-standards-innovation>
- Sassen, S. (April 2002). Locating cities on Global Circuits. *Environment&Urbanization Vol 14 No 1*, 18.
- Startus Insights. (2022). *Global Startup insights analysis*. Retrieved from Startus-insights.com:
<https://www.startus-insights.com/innovators-guide/biometrics-global-startup-hub-activity-analysis/>
- Trading Economics. (2022, Feb). *Wages*. Retrieved from Trading Economics:
<https://tradingeconomics.com/country-list/wages>
- WILLIAMS, S. M. (2013). Evaluating the Importance of Business Location Factors: The Influence of. *Growth and Change*, 26.
- WILLIAMS, S. M. (march 2013). Evaluating the Importance of Business Location Factors: The Influence of Facility Type. *Growth and Change*, 26.

References

- Badri, M. A. (1998). Combining the analytic hierarchy process and goal programming. *Interntionl journal of Production Economics for global facility location-allocation problem*, 12.
- Biometric Update.com. (n.d.). *Biometric Update .com*. Retrieved from Biometric Update .com:
<https://www.biometricupdate.com/white-papers>
- Blind, K. (2013, November). *The Impact of Standardization and Standards on Innovation*. Retrieved from Nesta.org.uk:
https://media.nesta.org.uk/documents/the_impact_of_standardization_and_standards_on_innovation.pdf
- Briefing Paper. (2020). *Legal Analysis of International Trade Law and Digital Trade*. Policy Department, Directorate-General for External Policies.
- Digital Leaders. (2021, Jan 24). *A Closer Look at ISO 56002 Innovation Management System*. Retrieved from Digital Leaders: <https://glweb.eu/blog/digital-transformation/159-ims>
- Dirk Willem te Velde, N. B. (June 2018). *MANUFACTURING IN AFRICA*:. Acara: Supporting Economic Transformation.

- Global Innovation Index. (2021). *Economy Comparison*. Retrieved from Global Innovation Index: <https://www.globalinnovationindex.org/analysis-comparison>
- Global Innovation Index. (2022). *ANALYSIS*. Retrieved from global Innovation Index: <https://www.globalinnovationindex.org/analysis-comparison>
- HOTZ, R. L. (1999, October 1st). *Mars Probe Lost Due to Simple Math Error*. Retrieved from Los Angeles Times: <https://www.latimes.com/archives/la-xpm-1999-oct-01-mn-17288-story.html>
- International Monetary Fund. (2022, Feb). *GDP current prices*. Retrieved from International Monetary Fund: <https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD>
- ISO. (2020). *ISO56000*.
- L A Times. (1999, Oct 1). *Mars Probe Lost Due to Simple Math Error*. Retrieved from L A Times: <https://www.latimes.com/archives/la-xpm-1999-oct-01-mn-17288-story.html>
- Lanvin, S. D. (2021). *Global Innovation Index (GII)*. Geneva: WIPO. Retrieved from WIPO: https://www.wipo.int/global_innovation_index/en/
- MacCarthy, B. L., & Atthirawong, W. (2003). Factors affecting location decisions in international operations -- a Delphi study. *International Journal of Operations & Production Management*, 25.
- Madgavkar, N. K. (Aug 2016). *India's ascent: Five opportunities for growth and transformation*. Mumbai: Mckinsey & Company.
- Mordor Intelligence. (2021). *GLOBAL BIOMETRICS MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)*. Hyderabad: Mordor Intelligence.
- Mordor Intelligence. (2021). *VIDEO SURVEILLANCE SYSTEM MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)*. Hyderabad: Mordor Intelligence.
- Myers, J. (2016, Oct 19th). *How do the world's biggest companies compare to the biggest economies?* Retrieved from World Economic forum: <https://www.weforum.org/agenda/2016/10/corporations-not-countries-dominate-the-list-of-the-world-s-biggest-economic-entities>
- Myers, J. (2020, Feb 19th). *India is now the world's 5th largest economy*. Retrieved from World Economic Forum: <https://www.weforum.org/agenda/2020/02/india-gdp-economy-growth-uk-france/>
- Robert Allen, R. D. (2000, July 01). *The Role of Standards in Innovation*. Retrieved from NIST (The National Institute of Standards and Technology): <https://www.nist.gov/publications/role-standards-innovation>
- Sassen, S. (April 2002). Locating cities on Global Circuits. *Environment&Urbanization Vol 14 No 1*, 18.
- Startus Insights. (2022). *Global Startup insights analysis*. Retrieved from Startus-insights.com: <https://www.startus-insights.com/innovators-guide/biometrics-global-startup-hub-activity-analysis/>

Trading Economics. (2022, Feb). *Wages*. Retrieved from Trading Economics:
<https://tradingeconomics.com/country-list/wages>

WILLIAMS, S. M. (2013). Evaluating the Importance of Business Location Factors: The Influence of.
Growth and Change, 26.

WILLIAMS, S. M. (march 2013). Evaluating the Importance of Business Location Factors: The
Influence of Facility Type. *Growth and Change*, 26.