

Problem Definition & Topic Justification

Checkpoint 2

Mapping Global Growth — A Data-Driven Strategy for NFL Market Entry

Project Title & Updated Topic Summary

Title: Mapping Global Growth: A Data-Driven Framework for NFL International Expansion

This project develops a quantitative model to identify and rank international markets most suitable for NFL expansion. It integrates fan engagement, economic capacity, and infrastructure readiness into a unified Market Attractiveness Index to support strategic decisions on future global growth.

Problem Definition & Justification

Research Question:

Which international markets present the highest potential for sustainable NFL expansion, based on a balance of fan interest, economic strength, and infrastructure readiness?

Stakeholder Relevance:

For the NFL International Committee, this analysis will guide where to prioritize games, investments, and marketing partnerships. Sponsors and media partners gain insights on audience potential for localized campaigns and broadcast rights. Host cities can benchmark their readiness to attract major sporting events, while fans benefit from more accessible engagement opportunities.

Key Metrics (KPIs)

1. To measure the robustness of the **Market Attractiveness Score** (Weighted combination of Fan Engagement, Economic Readiness and Infrastructure Readiness), a 'stability' KPI can be developed by measuring how consistent the ranking of top markets remains when the index's weights vary
2. To measure the quality of the **clustering analysis**, a Silhouette Score can be used to measure how similar each observation is to its own cluster compared to other clusters.

Unit of Analysis & Scope

- **Unit of analysis:** City-level. If detailed information is not available, country-level.
- **Temporal scope:** past 5 years.

- **Inclusion:** All countries with available data on the three KPI pillars.
- **Exclusion:** Markets with no visible NFL or American football activity (zero engagement or missing infrastructure data).

Data Sources & Access Plan

- **Google Trends API** – Search interest for “NFL,” “Super Bowl,” and team keywords.
- **Viewership data** – Which countries have broadcasts of NFL games, superbowl audience numbers.
- **World Bank Open Data / OECD** – GDP per capita, population, and urbanization rates.
- **Kaggle “World of Stadiums” dataset** – Global stadium locations and capacities.

All datasets are publicly accessible and can be programmatically retrieved and merged by ISO country codes. Preliminary tests confirm sufficient coverage for 80+ countries, ensuring analytical feasibility.

Literature Scan

- Gunillasson-Sevä and Erkers (2023) analyze the different steps required to achieve internationalization, specifically in the context of the NFL
- Van Bottenburg (2003) argues that certain cultural grassroots factors are critical in fan engagement for the NFL to achieve successful audience capturing in Europe
- Boscacci et al. (2014) Use Clustering Analysis to group cities according to their ‘smart-city’ potential features.

This project builds on those frameworks by integrating digital engagement signals with infrastructure and economic data, providing a modernized, data-driven tool for decision-making.

Exploratory & Preprocessing Plan

- **EDA:** Inspect data distributions, outliers, and variable correlations; explore relationship between fan interest and economic indicators.
- **Data Cleaning:** Handle missing values, remove outliers, and normalize variables.
- **Feature Engineering:** combine/aggregate measures to derive composite variables for engagement, infrastructure, and economy.
- **Validation:** check if these variables move together in a consistent way that justifies aggregating them into one composite score, possibly through Cronbach’s alpha.

Modeling Direction (Preliminary)

1. **Market Attractiveness Index Model:** Weighted sum of standardized pillars; sensitivity analysis with alternative weighting schemes.
2. **Clustering Analysis (K-Means):** Group countries by similarity across key dimensions to identify “NFL-ready” and “Emerging” clusters.

Performance will be measured according to KPIs discussed in the Key Metrics (KPIs) section.

Risks & Ethical Considerations

- **Data completeness:** Infrastructure data may be inconsistent across regions; mitigated via manual validation from secondary sources.
- **Ethics:** All data are publicly aggregated. There will be no personal or identifiable information used.

Next Steps

- Finalize dataset collection and merging.
- Conduct Exploratory Data Analysis and variable standardization.

References

- van Bottenburg, M. (2003). Thrown for a Loss?: (American) Football and the European Sport Space: (American) Football and the European Sport Space. *American Behavioral Scientist*, 46(11), 1550-1562. <https://doi.org/10.1177/0002764203046011007> (Original work published 2003)
- Gunillasson-Sevä, M., & Erkers, G. (2023). Cross-Continental sports internationalization: A case study on the NFL's internationalization process to Europe.
- Boscacci, F., Maltese, I., & Mariotti, I. (2014). Smartness and Italian cities. A cluster analysis. *TeMA*, 141-152.