**Claflin Basketball Dashboard**

**By**

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**THESIS STATEMENT**

The sports analytics industry is expected to reach $4.6 billion by 2025, rising at a CAGR of 31.2% from 2020 to 2025 (Mordor Intelligence, 2020). However, historically black colleges and universities (HBCUs), like Claflin University, sometimes struggle with restricted access to state-of-the-art data analytics tools and resources in the midst of this data revolution. This unfortunate fact draws attention to a serious void in the field of sports analytics, particularly for HBCU basketball programs.

The problem that presents itself is that despite the expanding field of sports analytics, a lack of specialized analytics tools and resource limitations have prevented many HBCU athletic programs, like the men's and women's basketball teams at Claflin University, from fully utilizing data analytics. This project aims to close this gap by turning raw data from Synergy Data into meaningful insights for coaches, players, and stakeholders. It centers around building an interactive dashboard using Power BI.

Recent studies highlight how data analytics may significantly improve team performance, player development, and strategic decision-making in sports (Smith & Berge, 2018). Research with HBCU's, unfortunately, have yet to surface for incorporating these types of data analytics technologies. on the application and advantages of such technologies in the setting of HBCUs, however, is conspicuously lacking. This study closes this research gap and offers a model for incorporating advanced data analytics into sports programs at institutions with little funding.

This research tackles the prevalent pattern of underutilization of data analytics in HBCU sports programs by concentrating on the unique demands and challenges of Claflin University's basketball teams. By using a data-driven approach, it seeks to raise the bar for athletic performance, in line with recent research that highlights the need for more inclusive and specialized analytics solutions in sports (Johnson, 2019).

**ABSTRACT**

The thesis presents an initiative to establish a comprehensive sports analytics framework for HBCU basketball programs, particularly at Claflin University, by harnessing the capabilities of Power BI for creating an interactive dashboard. This effort addresses the lack of advanced analytics tools in HBCUs and aims to utilize data analytics for improving team performance and informed decision-making. The proposed system will extract and transform raw data from the Synergy sports data website into actionable insights, using an automated ETL process for maintaining data integrity and consistency. This interactive dashboard is not only a step towards adopting a data-driven culture in athletics but also a potential model for resource-constrained institutions to enhance athletic performance and strategic planning. Through real-time performance analysis, the project targets the enhancement of Claflin University's basketball teams by providing coaches and players with easy-to-understand, visual representations of statistical data. Despite its potential, the project acknowledges the limitations of data reliability, technical literacy among users, and the need for continuous internet connectivity.

In sum, this thesis encapsulates the design, development, and implementation of a Power BI dashboard that will bring a transformative approach to performance analysis and decision-making in HBCU sports programs, setting a benchmark for similar institutions to leverage technology for competitive advantage.

**KEYWORDS AND ABBREVIATIONS**

[[data, analytics, dashboards, basketball]

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**INTRODUCTION**

Data's increasing importance in improving team performance and strategy is seen in the sports analytics scene. This project takes notice of this trend by taking the initiative to create an interactive dashboard using Power BI.  This project's main goal is to use data analytics to provide thorough insights into the teams' performances, assisting stakeholders, coaches, and players in making wise decisions.

**Background of the Study**

The creation of a complex data architecture for this project entails data translation, storage, and online scraping. This project aims to convert unprocessed data from the Synergy sports data website into insightful analysis. The information includes player biographies, game schedules, historical records, and team statistics—all essential for comprehending and improving the performance of the club.

The capacity to convert these many data sets into a format that is both accessible and actionable forms the basis of our endeavor. In order to derive reliable conclusions, data consistency and integrity must be guaranteed by the use of a relational database schema. Utilizing automated Extract, Transform, Load (ETL) procedures ensures that the data is trustworthy and up to date.

Data security and real-time updates assurance are also essential elements of this project. The dashboard will provide a real-time snapshot of the team's performance with Power BI integration, enabling quick analysis and decision-making. Strict adherence to data security rules will guarantee the protection of sensitive information.

The outcome of this project will be a set of interactive dashboards for both the Men’s and Women’s basketball teams. These dashboards will feature user-friendly interfaces, dynamic filters, and visually appealing charts and graphs, making the analysis both comprehensive and engaging.

**Purpose of the Study**

The purpose of this project is to create and put into use a Power BI-based dashboard that offers thorough performance analysis of the men's and women's basketball teams at Claflin University. A thorough examination of the team's statistics, player biographies, game schedules, and past records will be possible with this interactive dashboard. In doing so, the project will close the knowledge gap in sports analytics at HBCUs, empowering these colleges to use data to improve their athletic departments.

This project is a step toward Claflin University adopting a data-driven culture in athletics; it is more than just a technological project. This program is expected to completely transform how Claflin basketball teams approach performance analysis and plan building by bridging the gap between data and decision-making.

Essentially, the university's use of data science in sports has advanced significantly with the Claflin Men's/Women's Basketball Interactive Dashboard project. In order to provide useful tools for performance monitoring and analysis, this ambitious project combines technical know-how with a thorough grasp of basketball. Ultimately, this will help the Claflin basketball teams succeed.

**Research Question(s)**

The research question(s) guiding this study is:

1. How can the implementation of a Power BI interactive dashboard, utilizing data scraped from the school's athletic website, enhance the performance analysis and strategic planning of basketball teams at Claflin University?

This question seeks to investigate how cutting-edge data analytics tools might change an HBCU's perspective on sports performance and strategy while offering a model that other similar schools facing comparable difficulties could use.

**LITERATURE REVIEW**

Principles For the Design and Development of Dashboards: Literature Review

Abduldaem, Asmaa. Gravell, Andy. (2019). *Principles For the Design and Development of Dashboards: Literature Review,* [412.pdf (ocerints.org)](https://www.ocerints.org/intcess19_e-publication/papers/412.pdf).

The problem of information overload arises from the amount of data that is increasing. Dashboards, which are essential to business intelligence, combine instruments such as scorecards to help stakeholders make decisions and improve performance. However, software providers frequently overlook dashboard effectiveness in favor of presenting as much data as possible for marketing purposes. Furthermore, research on dashboard use in higher education for better decision-making and performance enhancement is lacking. Gaining a better grasp of how dashboards are used in this industry can improve key factor comprehension and lead to better decisions and performance.

There are several advantages to determining the dashboard's purpose based on managerial level and pertinent characteristics. Dashboards guarantee planning, monitoring, communication, and consistency. There is a research shortage in strategic dashboards, as indicated by the majority of papers published between 2010 and 2017 focusing on operational dashboards, according to a study by Abdul Rahman et al. With information growing by 60% a year in the big data era, making decisions based on facts becomes essential. Even while there is a wealth of data available, it isn't always used efficiently. Administrators in education must make decisions based on data. Dashboards can help with decision-making by presenting facts in an understandable and useful way. Nonetheless, dashboard design—particularly the use of color—can affect how effective it is for making decisions.

Dashboards are less common in non-profit sectors despite being essential for commercial decision-making. Nonetheless, dashboards provide insightful input to decision-makers in public organizations, such as clinical settings, helping them assess the quality of services (Dowding et al., 2015). The thorough overviews provided by the dashboard are also advantageous to public stakeholders. A few learning dashboards don't accurately display information, but they do compile visualizations of several learning process markers. The main focus of research on dashboards in higher education is student support. Notwithstanding its promise, little is known about the conditions that lead to a dashboard's adoption in higher education being successful, which calls for more research.

This is highlighted by the explosion in data availability, but managing large amounts of data with precise measurements is difficult. Dashboards are recommended as possible instruments to assist in decision-making. More research is needed to determine their effectiveness, particularly in nonprofits like higher education. This study employs BSC and GQM to determine determinants for dashboard adoption success, with a focus on what should be visualized. This could improve goal alignment and dashboard inputs, which could lead to better decision-making.

The Oakland Athletics Use of Sabermetrics and the Rise of Big Data Analytics in Business

Moorefield, Jacob. (2021). *The Oakland Athletics use of sabermetrics and the rise of big data analytics in business*. *Honors Theses.*  
<https://scholar.utc.edu/honors-theses/311>

Billy Beane evaluated baseball players' performances for the Oakland Athletics using advanced data analytics called Sabermetrics. As technology develops, the accessibility of large data demonstrates how analytics, akin to the Moneyball strategy, may propel organizational growth. The book "Moneyball," written by Michael Lewis, tells the story of Oakland Athletics general manager Billy Beane and his creative team-building methods. The Athletics encountered financial difficulties following a heartbreaking defeat in the 2001 ALDS and the departure of key players like Jason Giambi. Billy hired Peter as assistant general manager, and Peter implemented a new approach: rather than looking for certain individuals with special skills, they should build a roster of cheap but efficient players, which would challenge conventional scouting practices. This study assesses how big companies apply these strategies to improve marketing, customer outreach, sales, and staff retention. It investigates if smaller companies may produce comparable outcomes. Nevertheless, big data technologies and skills are often out of reach for small enterprises.

Baseball player evaluation has undergone a revolution thanks to Sabermetrics, which puts data analytics ahead of intuition-based evaluations. Metrics like on-base percentage (OBP), which calculates how often a batter reaches base, and on-base plus slugging (OPS), which combines OBP with a player's power-hitting ability, are highlighted by sabermetrics. Billy Beane's Moneyball strategy was centered on finding cheap players with high OPS percentages as opposed to high-priced home run hitters. This tactic, which prioritizes players with greater OPS, worked better than depending solely on historically important but expensive players. Furthermore, one of the key metrics in sabermetrics was introduced: Walks plus Hits-per-innings Pitched (WHIP). WHIP is a pitching statistic that measures the frequency with which batters reach base via hits or walks. It provides an alternative viewpoint to the widely used Earned Run Average (ERA). Baseball players can now be evaluated using a more useful framework thanks to these sophisticated measures.

Baseball was transformed by the Oakland Athletics under general manager Billy Beane's data-driven approach. They managed to secure the second-best baseball season in 2002 with 103 wins, despite a limited budget. Beane challenged conventional evaluations by focusing on objective statistical player performance through the use of sabermetrics. For example, they signed Scott Hatteberg, who was passed over because of an injury, and helped him adjust to a new position. The Athletics were successful because they applied sabermetrics well to find underappreciated talent, not because of pure luck. The 2002 season of the Oakland Athletics brought attention to this analytical method, which led to a major shift in the MLB as teams began to realize the value of data in player evaluations.

Similar to underfunded sports teams, tiny firms can use statistics to gain an advantage over larger organizations. Now that data is widely available, companies strategically examine it to increase productivity and efficiency. Even in tech-driven contexts, small businesses can quickly adapt to change, even when larger corporations have greater resources. Modern technology provides better access to data, which enables small organizations to use different kinds of analysis—descriptive, predictive, and prescriptive, for example—much like baseball's Sabermetrics.

The Effectiveness of Interactive Dashboards to Optimise Antibiotic Prescribing in Primary Care: A Systematic Review.

Garzón-Orjuela, N., Parveen, S., Amin, D., Vornhagen, H., Blake, C., & Vellinga, A. (2023). The Effectiveness of Interactive Dashboards to Optimise Antibiotic Prescribing in Primary Care: A Systematic Review. *Antibiotics*, *12*(1), 136. MDPI AG.

[Antibiotics | Free Full-Text | The Effectiveness of Interactive Dashboards to Optimise Antibiotic Prescribing in Primary Care: A Systematic Review (mdpi.com)](https://www.mdpi.com/2079-6382/12/1/136)

Antibiotic prescription (AP) data is gathered for surveillance by governments and healthcare organizations. Dashboards can use this data to give GPs feedback, which may change their prescribing practices. The efficiency of interactive dashboards in optimizing AP in primary care was assessed by a systematic review. Seven out of the ten studies that were reviewed showed a small reduction in AP. Dashboards are more useful in conjunction with behavioral or educational initiatives, albeit they may not be sufficient to lower AP on its own. According to the study, dashboards can lower AP, but they work best when used in conjunction with other interventions.

This PROSPERO-registered systematic study examined how dashboards are used when prescribing antibiotics in primary care settings, adhering to PRISMA recommendations. The studies under consideration focused on general practices, with dashboard and comparator interventions as well as usual care and non-dashboard interventions. The review concentrated on results such as shifts in the prescription of antibiotics and dashboard interaction. Several databases were used by the researchers, and the inclusion cutoff date was August 15, 2022. They used a strict procedure for choosing studies, extracting data, evaluating risks, and analyzing data. The GRADE method was used in the review to evaluate the quality of the evidence, and missing data and study heterogeneity were also taken into account.

Eight research studies using various metrics looked at changes in antibiotic prescribing (AP). While some studies reported improvements by patient group, age, or antibiotic type, others concentrated on total AP rates by diagnostic categories. Secondary results emphasized the use of antibiotics appropriately versus inappropriately based on International Classification of Diseases (ICD) codes. Jones (2021) employed recommendations based on evidence to determine the appropriateness of antibiotics, whereas Davidson (2022) concentrated on situations in which antibiotics are not recommended. A few research evaluated the start or length of antibiotics. Linder (2010) and Curtis (2021) assessed dashboard engagement. While some treatments, such as Curtis (2021), revealed variations in broad-spectrum prescribing, other studies reported no appreciable alteration in AP. Reductions in inappropriate AP were noted in some studies, but no differences in outcomes, such as antibiotic duration, were documented in others.

Frequent, customized, and context-specific feedback is necessary for behavioral interventions to be successful. Tasang et al. acknowledged the impact of organizational context and resources while emphasizing practical feedback tailored to user roles. Including several viewpoints—public, patient, and organizational—improves the efficacy of feedback systems. Shen and Davidson emphasized the value of consistent participation in antimicrobial stewardship by integrating patient-focused elements with education programs and social media outreach. However, a number of issues with this systematic review prevented meta-analysis results, such as significant study heterogeneity. Publication bias is still an issue even with thorough database searches.

Impact of Big Data Analytics on Healthcare and Society

Roy, Ajit. (2016). *Impact of Big Data Analytics on Healthcare and Society,* [1-impact-of-big-data-analytics-on-healthcare-and-society-2155-6180-1000300\_1-libre.pdf (d1wqtxts1xzle7.cloudfront.net)](https://d1wqtxts1xzle7.cloudfront.net/53409827/1-impact-of-big-data-analytics-on-healthcare-and-society-2155-6180-1000300_1-libre.pdf?1496798254=&response-content-disposition=inline%3B+filename%3DImpact_of_Big_Data_Analytics_on_Healthca.pdf&Expires=1696800414&Signature=YTLTMFx~BH5MnKWVWF3NVRGpn8cpYROzIRG~X0U-XSezb4od~Qx6hPxUZuhzZ39PYkTA0YW7bfSBa~FmRhS0~pWC~bA4UIDnQu-QGncwArrWsmF8P1kooexnz0z3GuNvYIiX1Yxvhsfx7ukKGP4txcgb7Zc23tS03~NelNYde5PS~SCsTNgloCw2D0az-Bb7gk9HMSP1DgGtpdGQ-dqkzRu5yRJnYfrjLeLAXI7mjnis9fhVcBZxvNFm~z6GuB1gCAQlhz0W8KihoLrAHK-Is6EPwiBA1dTzuazRq4~LiJkF6Z0shMxBmFThFlhYjO6Ix9RXkI51-yGBIhMER1Vs0Q__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)

Learning analytics uses techniques from a variety of disciplines, including machine learning, artificial intelligence, statistics, and more, to analyze and make use of enormous volumes of data. These methods have been used in many different contexts. They are utilized by e-commerce for market research and recommendation systems. They are used by social media platforms for crowdsourcing, analysis, and monitoring systems. E-government ensures equitable access and fosters citizen engagement by utilizing analytics to deliver omnipresent services.

Hong Kong's Health Department enhanced its analytics to forecast the spread of disease during the 2003 SARS outbreak, which proved crucial in the event of an outbreak of dengue fever. Analytical tools also improved and increased the accuracy of rescue efforts in the Philippines following Typhoon Haiyan in 2013. The Clinton Health Access Initiative maximizes resources to assist millions of people with restricted access to treatment by using analytics to estimate drug demand for illnesses like HIV/AIDS and malaria. Big data is used by companies like MedicMobile and the Grameen Foundation to pinpoint outbreaks. However, there is a chance that data—especially personal data—will be misused. Wealthy nations have shaped rules around big data because they see its potential, particularly in the healthcare industry.

Although there is no denying data analysis's potential, worries about privacy violations and inaccurate forecasts continue to exist. Our increased ability to collect and analyze massive volumes of data points to revolutionary changes in society. Many researchers and engineers throughout the world are looking forward to the positive effects of big data, but they are also wary, balancing the potential benefits against potential disadvantages and moral conundrums.

**METHODOLOGY**

The Claflin Men's and Women's Basketball Dashboard Project is a trailblazing endeavor in the field of sports analytics, utilizing data to transform basketball teams' performance analysis and improvement processes. The utilization of web scraping to extract a wealth of data from the Synergy sports data is a fundamental component of this project. Numerous pieces of data are produced by this procedure, such as player profiles, game schedules, historical records, and team statistics. A strong database is required for the integration and structuring of this heterogeneous dataset. This database must be more than simply a repository; it must be a dynamic and structured source of information that is essential for perceptive analysis.

**Database Design**

This project's core competency is its capacity to make data usable and accessible. In order to do this, we are use Power BI, a program renowned for its effectiveness in data analytics and visualization, to create an interactive dashboard. But Power BI's efficacy is closely correlated with the accessibility and organization of the underlying data source. This is where databases come into play, acting as a single, integrated platform that facilitates data retrieval and searching. Coaches and players will be able to make quick judgments if the database and Power BI work together harmoniously to convert complex datasets into meaningful insights.

**Data Collection**

An essential part of the Claflin Basketball Dashboard Project is the data loading procedure, which makes sure that the information gathered via web scraping is correct, structured, and easily incorporated into our database. This is an especially complex procedure that requires sophisticated tools and methods to properly manage the data.

**Utilizing Selenium for Data Extraction**

One of the main coding packages in our ETL toolbox is Selenium, a potent automation tool that lets us communicate dynamically with web pages. Selenium is essential to the Claflin project's ability to access Synergy data, a vast repository of basketball analytics and statistics. Despite being a data-rich platform, Synergy might be difficult to programmatically browse. With the help of Selenium, we can mimic human-like interactions with the online pages, making it possible for us to scrape data that would be challenging to obtain with more conventional web scraping techniques. Our analytical capabilities are based on our ability to consistently extract the most current and comprehensive information, which is ensured by this approach.

**Automating Authentication with Pass Keys**

Handling login-based websites presents a big challenge for automated web scraping. We have put in place a system where pass keys are used to log in automatically in order to access Synergy data. In order to authenticate our scraping bot, login information must be securely stored. We guarantee continuous data extraction by automating this procedure, which is essential to preserving the real-time data flow into our system. In addition to saving time, this automation guarantees the consistency and dependability of our data collection procedure.

**Leveraging Pandas for Data Organization**

After the data is extracted, it must be properly processed and organized for analysis. This is where Python's robust Pandas data manipulation package comes into play. The scraped data is arranged using Pandas into data frames, which are tabular data structures that are two-dimensional, size-mutable, and perhaps heterogeneous. This stage is essential because it converts unstructured data into a format that is easier to visualize and analyze.

Pandas gives us the adaptability to effectively clean, convert, and aggregate data. For example, combining data from several sources, handling missing values, and reshaping datasets to meet our analytical requirements are all simple tasks. By using Pandas, we can be sure that the data that feeds into our Power BI dashboard is well-structured and meets our needs for analysis and visualization.

**Data Connectivity: Pandas (Python) to MySQL Server**

The MySQL database should already be established and now we can connect to the database from python. Python requires a connector to interact with MySQL. There are several connectors available, and one of the most used is mysql-connector-python. After installing the connector, you can write Python code to establish a connection to the MySQL server. This involves specifying your database credentials, including the username and password, and the name of the database you want to connect to. Once the connection is established, you can verify it by checking the version of the MySQL server to ensure that the connection has been made successfully.

With the connection in place, the next step is to prepare your pandas DataFrame. The DataFrame is a versatile data structure in pandas that allows for easy data manipulation. You need to ensure that the DataFrame's structure corresponds to the MySQL table's schema that you've set up.

The transfer of data from pandas to MySQL can be done using the **to\_sql.** function. This function is part of the pandas library and can directly send data from the DataFrame to the MySQL table. It requires an SQL Alchemy engine that specifies the details of the MySQL server to connect to. When done sending tables to MySQL database be sure to close the connection with mydb.close().

**Data Connectivity: MySQL to Power BI**

Because it creates a reliable and secure connection between Power BI and our data warehouse, data source connectivity is vital. Power BI needs this connectivity in order to retrieve data from the warehouse quickly and effectively. We can facilitate a smooth data transfer from the source—the school's athletic website—to the dashboard interface by establishing this link. Ensuring the integrity and usefulness of the data supplied is contingent upon this flow.

Numerous technical factors are taken into account throughout the connecting procedure, such as data privacy, network dependability, and interoperability between Power BI and the data warehouse. The project makes sure that the data not only flows continuously but also stays safe and true to the source by giving these criteria top priority

**Data Transformation within Power BI**

The data goes through a number of changes once it gets to Power BI in order to prepare it for visualization. Here's where Power BI's powerful data modeling features come into play, enabling us to carry out the essential transformations like computations, formatting, and aggregations. These changes are necessary to translate unprocessed, frequently complex data into a visually beautiful and easily comprehensible format.

We take advantage of the advanced analytics capabilities of the platform by managing these transformations within Power BI. Because we can change and visualize the data in the same environment, this technique also streamlines the data processing workflow, increasing productivity and lowering the risk of errors.

**Implementing Real-Time Updates**

This project stands out for its emphasis on delivering updates in real-time or almost real-time. Having the most recent information is essential in the fast-paced world of basketball, where decisions and strategies can change drastically. We want to accomplish this by putting in place advanced technologies that enable real-time data updates.

These methods include effective data pipelines that swiftly process and move this data to the warehouse and, eventually, Power BI, as well as automatic data scraping tools that regularly extract the most recent data from the source. We guarantee that the dashboard always shows the most recent data by making sure these procedures are quick and dependable. This provides insightful information on player statistics, team performance, and game plans.

**Power BI Design**

The design process is the initial step in making this dashboard a reality. Creating an interface that is both interesting and intuitive is our main objective. We are concentrating on a few essential elements—visual appeal, dynamic filters, and user-friendly interface—in order to do this. The dashboard's intuitive navigation and interaction are guaranteed by its end-user-focused design. The features and arrangement are designed with coaches and players in mind, who might not have a lot of technical knowledge but yet need in-depth performance analysis. We are using a range of visually appealing charts, graphs, and tables that efficiently communicate important findings. The selection of these visual components is based on how well they convey the underlying facts, be it team statistics or player performance over time. The dashboard's dynamic filters, which let users tailor views depending on particular parameters like season, team, or player, improve the user experience. Because of this feature, which lets users delve deeper into the data that matters most to them, the dashboard becomes an effective instrument for individualized analysis.

**Limitations**

It's critical to recognize the inherent limitations of the Claflin Basketball Dashboard Project, despite its creative approach and sophisticated capabilities. First off, there are concerns associated with the project's reliance on web scraping for data collecting, including problems with data dependability and availability. Websites may alter their design or impose access restrictions, which could impede the flow of data. Moreover, there exists a direct correlation between the precision and exhaustiveness of the source data and the caliber of insights obtained from the dashboard. The efficiency of the study may be limited if the data on the school's athletic website is not updated with precision or is not comprehensive enough. The technical expertise needed to fully utilize and navigate the Power BI interface is another constraint. It may be difficult for users with little background in data analytics to comprehend intricate graphics or efficiently drill down into the data. Furthermore, real-time data updates can be advantageous but also problematic because they necessitate reliable and continuous internet connectivity as well as server stability, both of which are not always possible. Finally, this project is not an exception to the rule that any system handling sensitive data is susceptible to cybersecurity attacks even with stringent security measures in place. To prevent such breaches, security protocols must be updated and monitored on a regular basis.

**Ethical Approaches**

Strict ethical guidelines must be followed when using Synergy data for the Basketball Dashboard Project using Claflin University's access account. This entails making sure that the use of data complies with Claflin University's data usage standards as well as Synergy's terms of service. It is essential to abide by confidentiality agreements and intellectual property rights, utilizing the data only to improve the performance and strategy development of the basketball teams. Unless specifically permitted, sharing, copying, or external distribution of data must be strictly forbidden. Furthermore, it's critical to uphold open communication regarding the type of data being used and the reasons for its analysis with all parties involved, including the coaching staff and players. Only the data science team and the basketball athletic department at Claflin have access to the data used for this study.

**RESULTS**

The results derived from the Claflin Men’s Basketball Dashboard offer critical insights into the team's scoring dynamics. The data visualizations present a multifaceted analysis, shedding light on the efficacy of various possession types, play types, and shot types in the scoring strategy of the team.

**Analysis of Points by Type of Possession**

A meticulous examination of the points by type of possession reveals that the team excels in 'After Time Outs' and 'Half Court Press' scenarios, indicating strong play execution post-strategizing. 'Transition' plays are also notable, suggesting that the team is effective in fast-paced game situations. Conversely, 'Against Zone' and 'Against Man' scenarios present opportunities for improvement.

**Breakdown of Points by Play Type**

Delving into points by play type, the 'Pick & Roll Ball Handler' and 'Cut' plays are identified as the most potent, attributing to their higher point yields. This effectiveness is reflective of the team’s tactical preparedness and player skill in executing complex plays. The lower scoring in 'Isolation' and 'Off Screen' plays suggests areas for potential tactical revisions and training focus.

**Distribution of Points by Shot Type**

Concerning the points by shot type, the data indicates a high reliance on 'Jump Shots', followed by 'At Rim' plays. The lower frequency of 'Hook' and 'Runner' shots may point to player preferences or a strategic focus on higher percentage shooting options. This component of the analysis could guide future training to diversify the team’s scoring ability.

**DISCUSSION AND CONCLUSIONS**

The Claflin Men’s Basketball Dashboard Project stands as a significant advancement in sports analytics for HBCUs, exemplifying how data can be strategically utilized to augment athletic performance. Through the innovative use of Power BI, the project has successfully translated complex datasets into actionable insights, enabling the Claflin University basketball program to analyze and visualize performance metrics effectively.

The project findings indicate that the Claflin Men's Basketball team can substantially benefit from understanding the intricacies of their scoring strategies, such as points by type of possession, play type, and shot type. By leveraging this data, coaches can make informed decisions to refine game strategies, enhance player development, and foster a data-centric culture within the team.

The dashboard's ability to provide a granular breakdown of points by different play metrics is not only a testament to the project's success but also serves as a model for other HBCUs to follow. This interactive dashboard proves that even with limited resources, institutions can deploy advanced analytical tools to elevate their sports programs and compete effectively at higher levels.

Moreover, the project underscores the importance of integrating modern data analytics into sports to uncover valuable insights that would otherwise remain hidden in raw data. The Claflin Basketball Dashboard thus acts as a bridge, narrowing the gap between raw statistical data and tactical applications on the basketball court.

Limitations in data reliability and technical challenges are acknowledged, yet they do not diminish the project's overall value. The study proposes a forward-thinking approach to sports management and team performance analysis, reinforcing the notion that in the age of information, data-driven decisions are key to competitive advantage.

In conclusion, the Claflin Men's Basketball Dashboard has demonstrated the power of data in transforming athletic programs at HBCUs. It highlights the potential of analytics to enhance performance and strategy, paving the way for broader adoption of such technologies across similar institutions facing analogous challenges.

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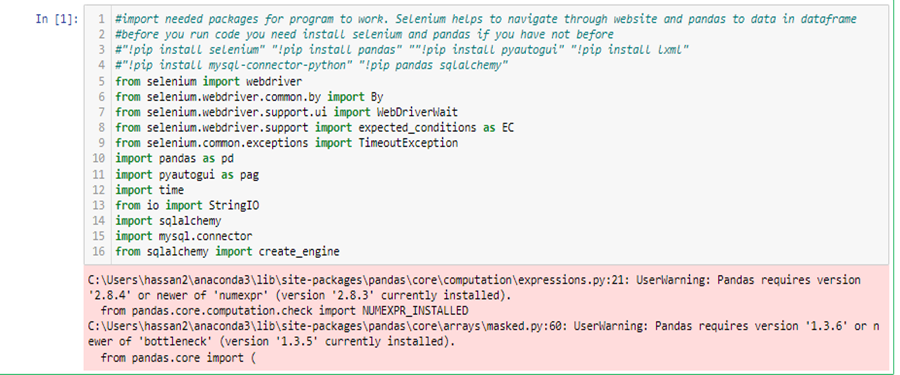
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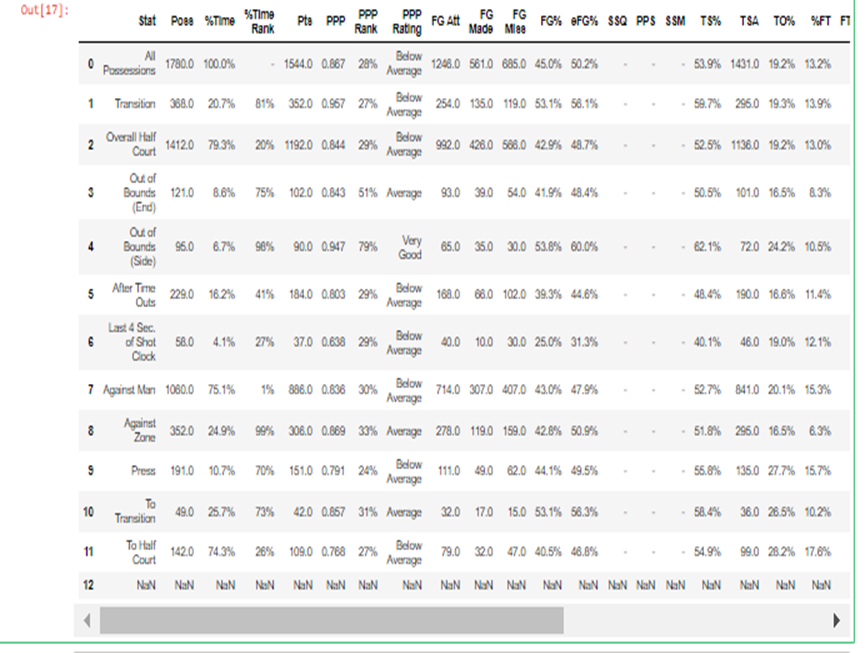
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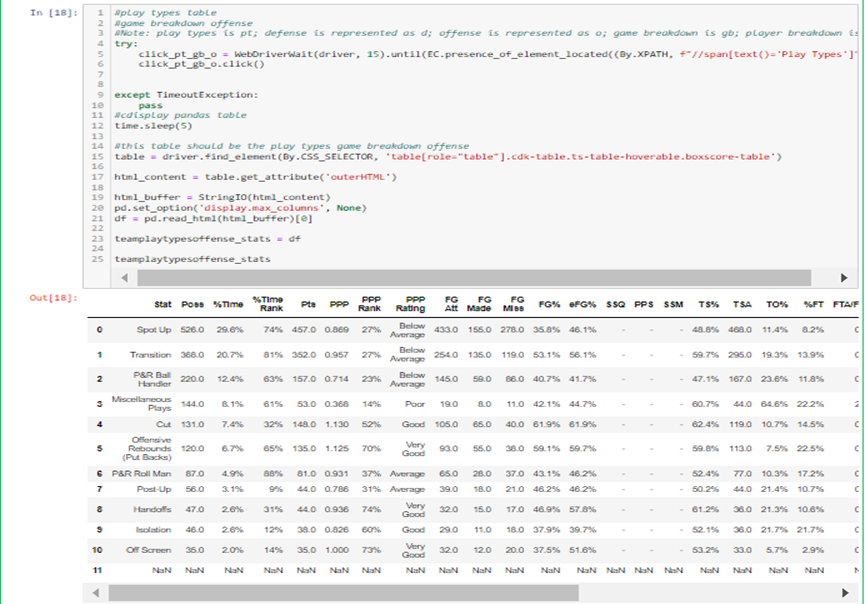
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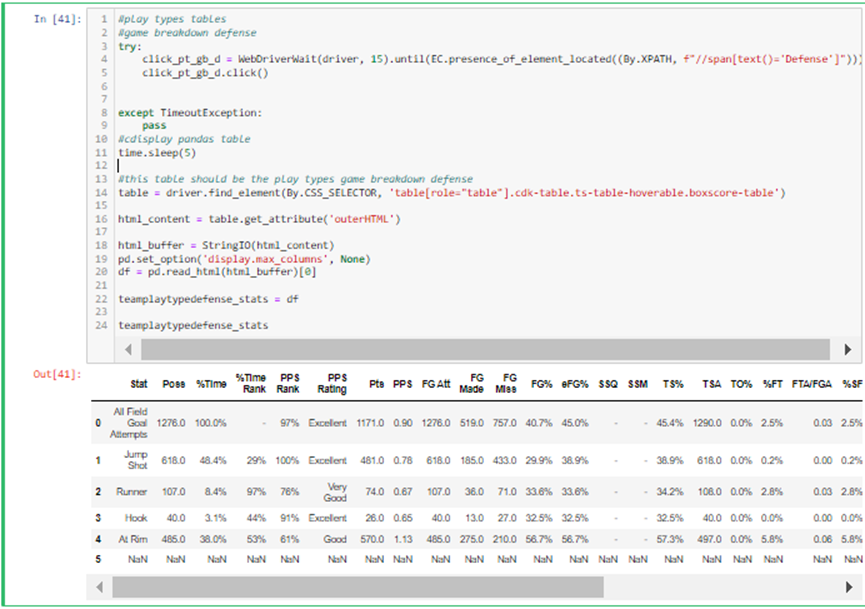
**Appendix A: Title of Appendix**

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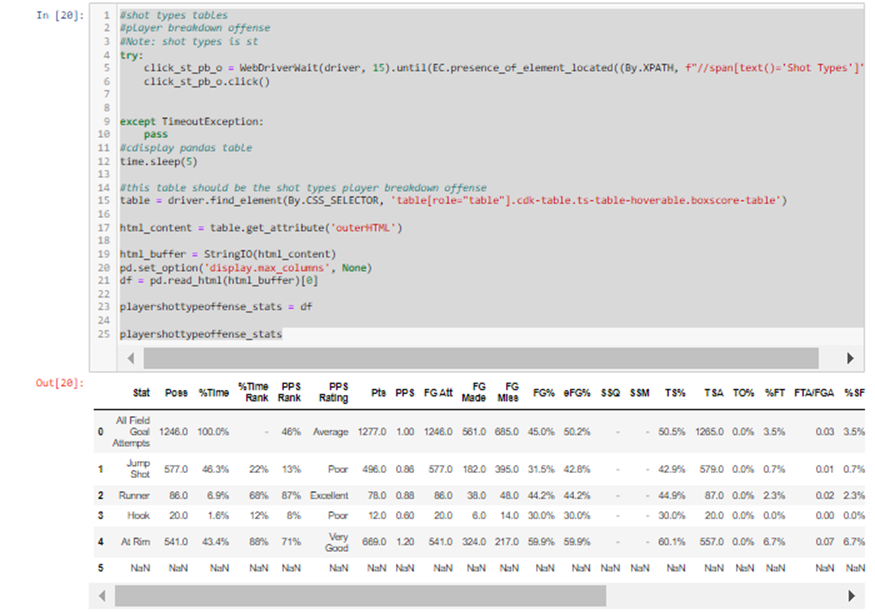
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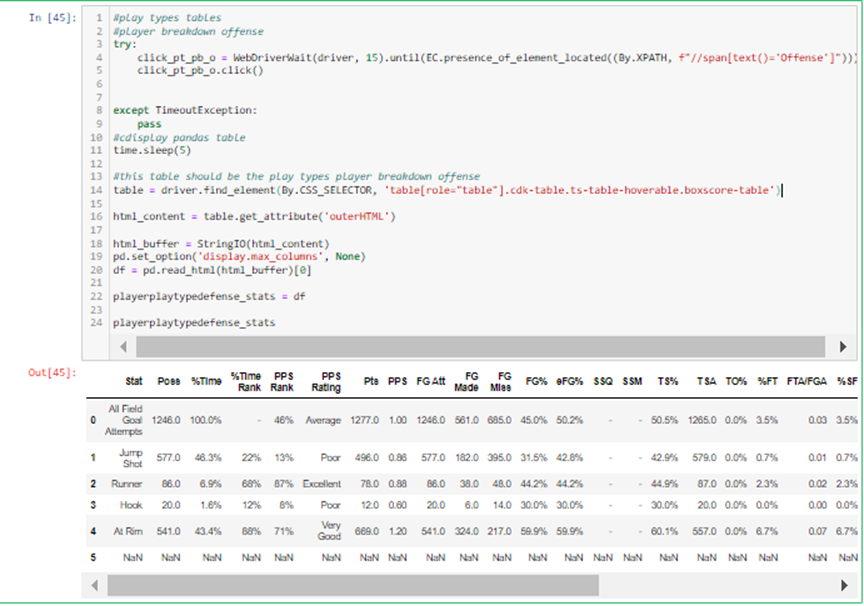
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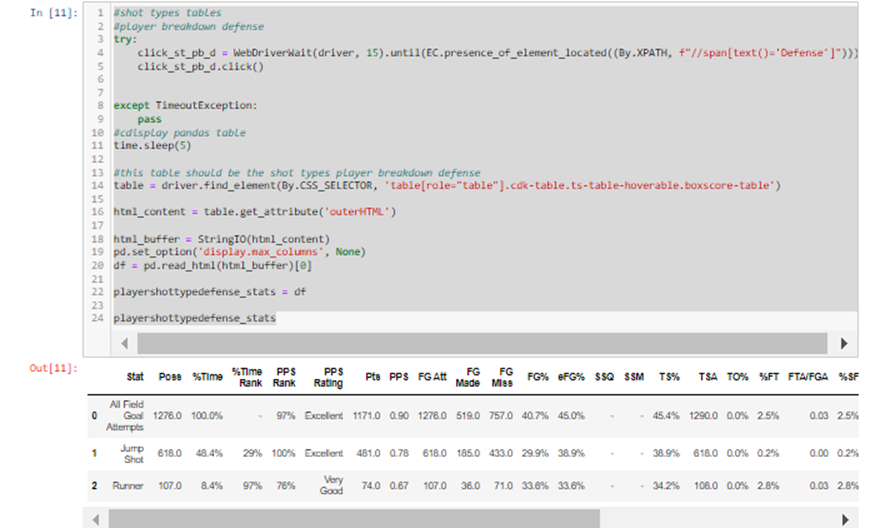
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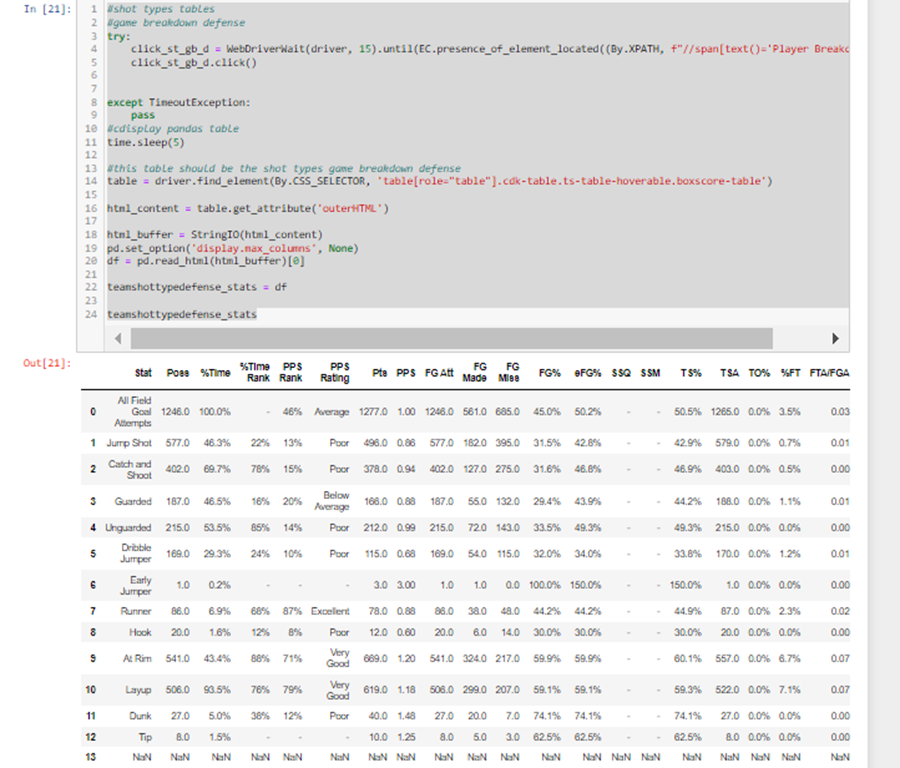
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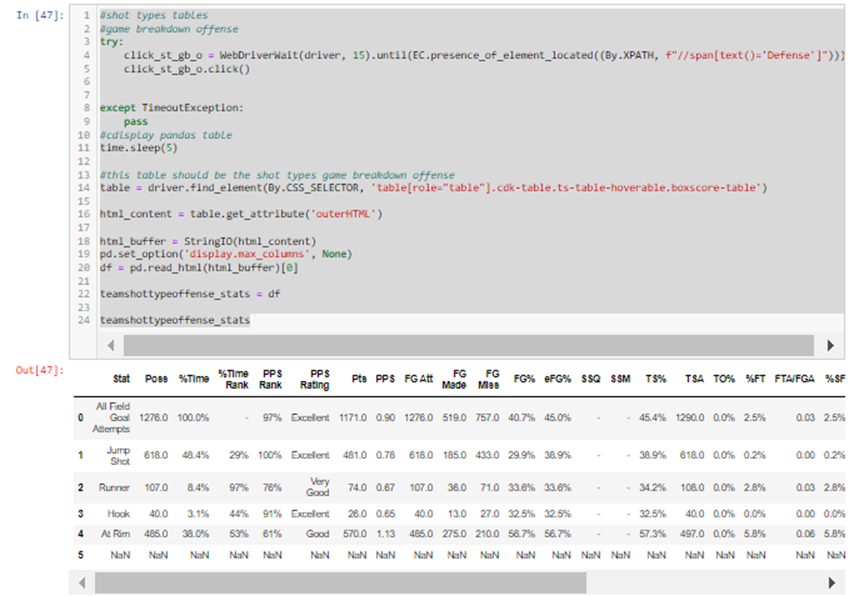
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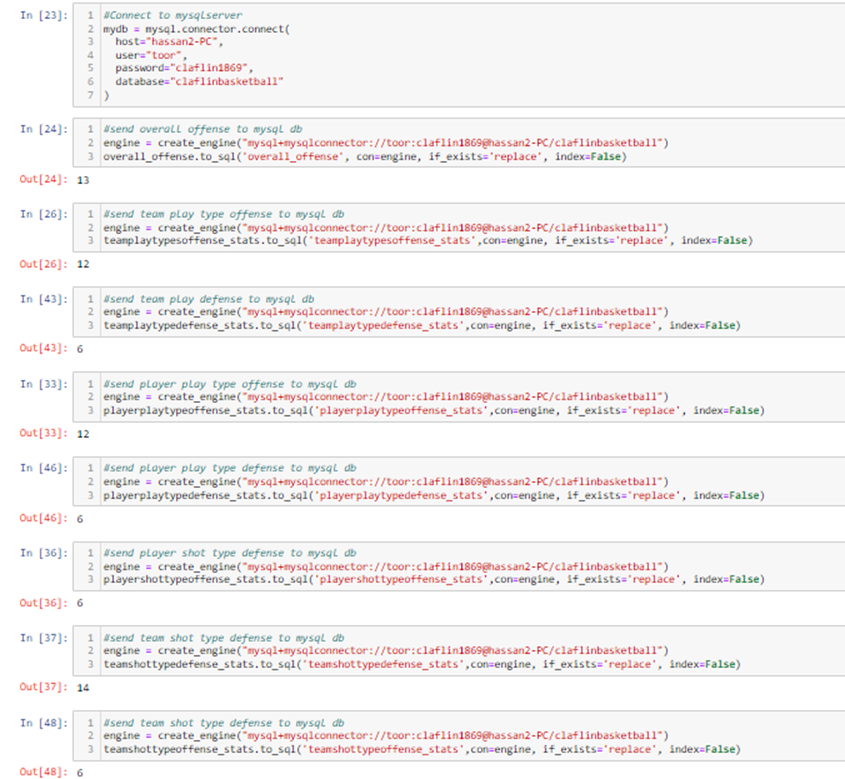
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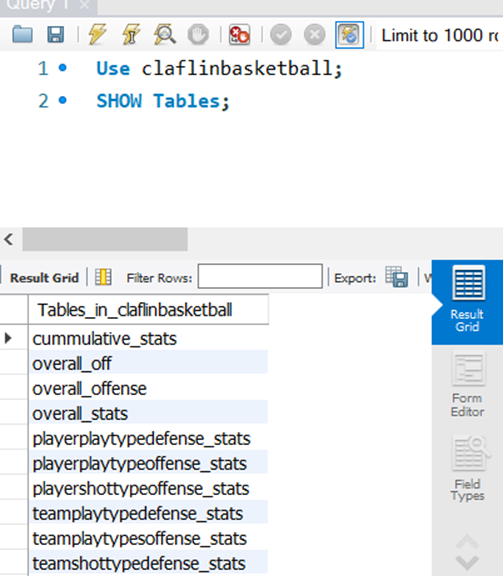
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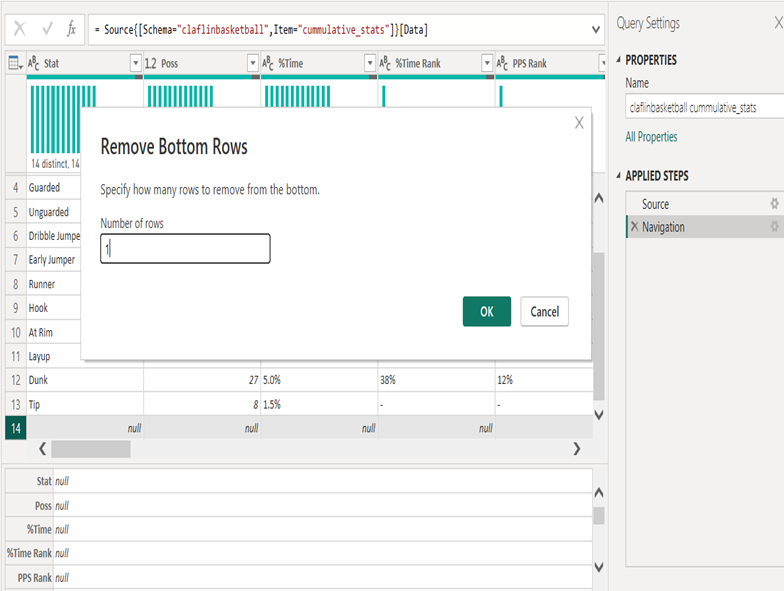
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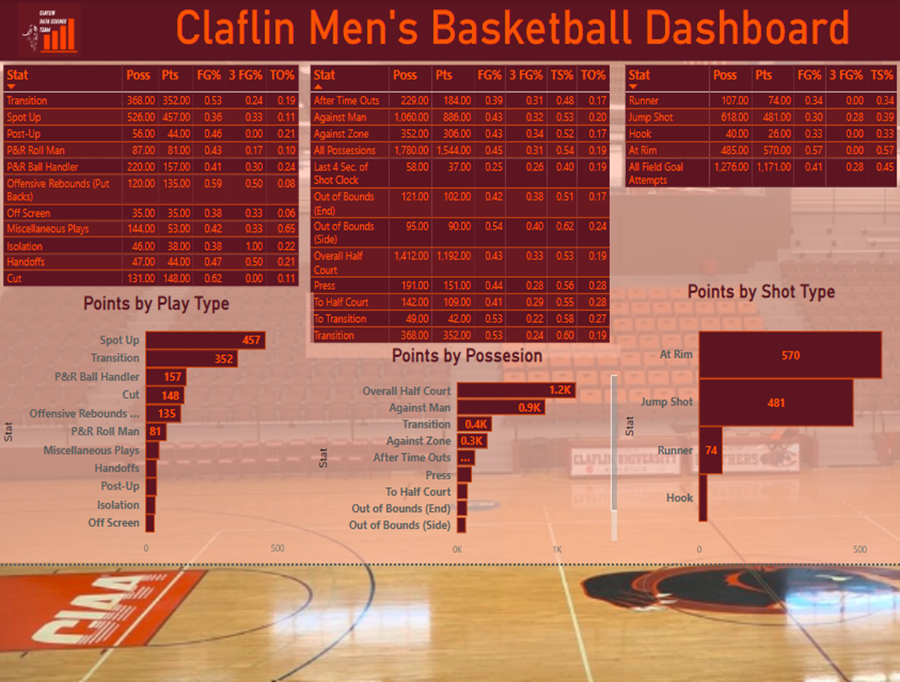
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