

PassR Business Analysis

PassR maps weighted passing networks of soccer players over full length matches through a fine-tuned computer vision model to generate valuable analytics, including cluster, transitivity, and general centrality analyses that can revolutionize how teams strategize.

GROUP 72

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I. Overview of the Problem PassR Solves

Sports analytics has surged in popularity over the last decade amongst both teams and viewers, underscoring the critical role of data science and advanced analytics in today's sports landscape. However, due to soccer's nature as a low scoring sport, current analytics for the game are primarily focused on possession statistics and are generated through manual tagging, a tedious, time extensive, and expensive process. Current challenges in automating this process include jersey detection and difficulties in field localization due to varied camera angles and highlight cuts. PassR aims to not only automate this process, addressing these key challenges with an array of computer vision algorithms, but also to generate further insights that can optimize the way that teams strategize by bringing computer vision to often overlooked parts of the game.

II. Value Proposition

PassR's value proposition lies in its ability to go beyond traditional soccer analytics by utilizing computer vision to uncover comprehensive passing networks, facilitate informed decision-making in regards to player selection, game tactics, and training focuses, and provide insights including for future strategies, providing a competitive edge. The decision-making insights will help inform coaches, team managers, and team analysts as they find the strongest configurations and player-pair passing strategies. Additionally, PassR will be the first of its peer soccer analytics platforms to perform such analyses entirely through automation. PassR will base subscription models as well a higher tier, more costly options to teams to offer insights into competitor passing networks who also opt in, allowing teams to leverage opposing teams to identify weaknesses and adapt their games accordingly.

III. Customer Segment

The customer segment primarily composes of soccer teams themselves on an international scale, including national teams, specific soccer leagues, and college and smaller league teams. Beyond this primary customer segment, PassR aims to target a much broader audience as well, namely soccer viewers and enthusiasts. Advertising would largely be oriented with team owners, sponsors and investors, coaches, and players in mind while we expand to viewers as well. As an initial means of advertising and partnership, we plan to partner with smaller leagues and college teams who can provide us with more stable, consistent match footage on which we can train our model further, while teams will receive our strategic insights. College sports like football and basketball as they stand currently garner quite a bit of enthusiasm and we plan to expand this to college soccer as well.

IV. Market Research

The global Sports Analytics market size is approximated to be \$3.73 billion in 2023 and is projected to grow to \$22.13 billion by 2030 with a continuous annual growth rate of 28.7%

over the forecast period, according to Fortune Business Insights. Although specific market size data is not available for soccer specifically, soccer analytics currently make up a smaller relative portion of the global sports analytics market compared to other sports but is projected to be the largest growing sports segment over the next decade. This forecasted growth signals a large opportunity for PassR to enter and dominate the market. The soccer analytics market as it stands is fragmented with approximately a dozen main players constituting over 80% of the market share, but there remains opportunity for smaller, newer companies such as StatsBomb to disrupt the market and gain market share.

In terms of market opportunity, there currently exists limited competition in advanced soccer analytics as discussed in the Competition section of the report, and existing solutions focus on basic metrics, allowing untapped potential for comprehensive solutions like PassR to address. As seen from the projected increase in the sports analytics market, a growing number of teams across different sports are looking to advanced analytics to strengthen competitive edges.

V. Stakeholders

- Team Owners and Investors/Sponsors in Teams:
 - o These individuals' financial involvement gives them vested interest in the team's performance, as more informed, stronger performances align with their financial objectives
 - o Better team performances can result in higher fan engagement, ticket and merchandise sales, sponsorship opportunities, etc., which serve to financially benefit these constituents
- Coaches and Players
 - o As the direct users, both coaches and players interact with PassR and stand to gain financially from better performances, specifically from pay raises or sponsorships
 - o Players can gain essential skill development as they receive tailored feedback on their strategies and positioning and gain a better understanding of how successfully they engage with other players
 - o Coaches are aided in tactical adjustments, as PassR can point out weak points and less obvious key players (specifically through our transitivity analysis)
- Viewers
 - o Viewers drive much of the excitement and enthusiasm, and thus revenue, for sports, and have taken drastically more interest in analytics platforms in recent years. Using PassR will allow soccer fans a more interactive experience with matches, which can lead to increased viewer retention and bring in wider audiences that appreciate richer understandings of the games.

VI. Competition

- StatsBomb
 - o Our main competitor is Stats Bomb, which currently provides soccer analytics mostly focused on possession statistics, exclusively employing manual methods to extract data, specifically five individuals for each game tagging players, team

associations, the ball, specific events and accuracy checking. PassR will eliminate the several-day lag in reporting analytics through its automation and with scale, decrease costs to customers as well by removing the manual component.

- Large Sports Analytics Companies (IBM, Oracle, Catapult Sports):
 - o There are also several larger Sports Analytics companies like IBM that offer a small section of soccer analytics, many of which focus on specific leagues and larger games and are not particularly oriented towards teams, but rather to viewers and sports betters. These companies place a much larger spotlight on sports like football and basketball, which have a much more built-out analytics infrastructure. Thus, PassR turns the focus to soccer specifically, with a wider net of customers beyond specific leagues, and produces valuable analytics in a quick and cost-efficient manner.