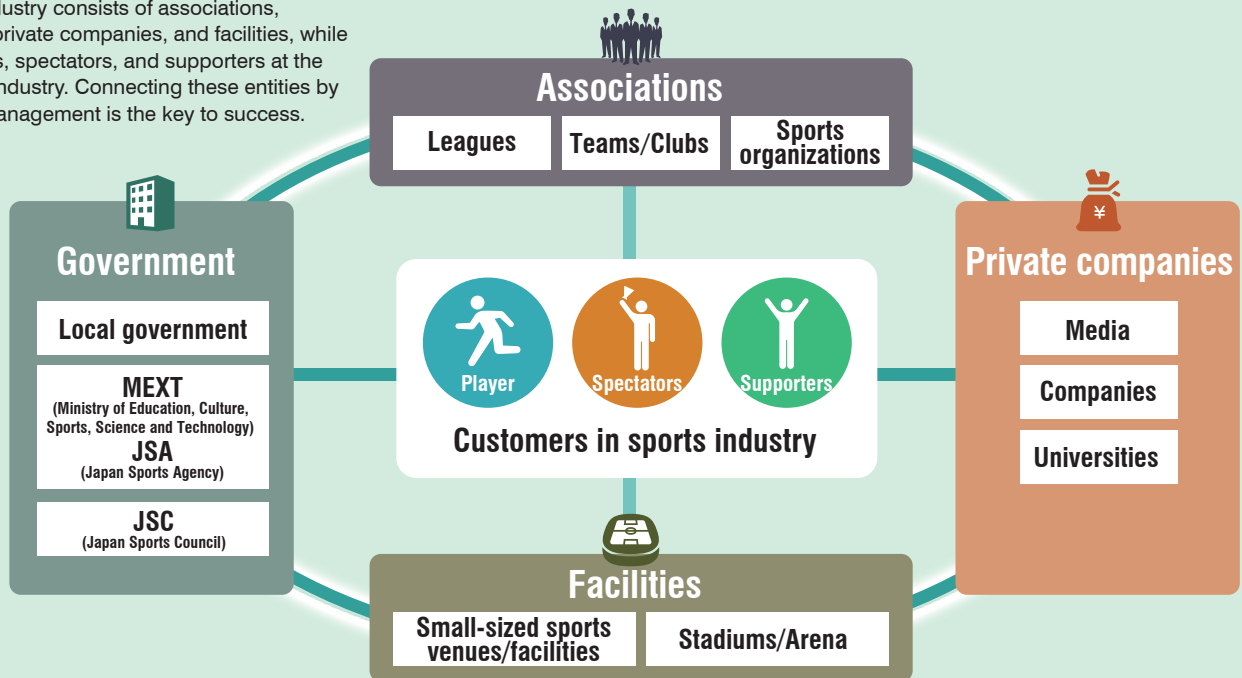


Data Driven Management for Sports

For the development of the sports industry, it is essential to accurately grasp the needs of “Players(Who play sports)”, “Spectators(Who watch sports)”, and “Supporters(Who support sports)”. ABeam consulting provides services for planning and execution of business strategies which offer new values to whole eco-system by clarifying the needs based on data analysis.

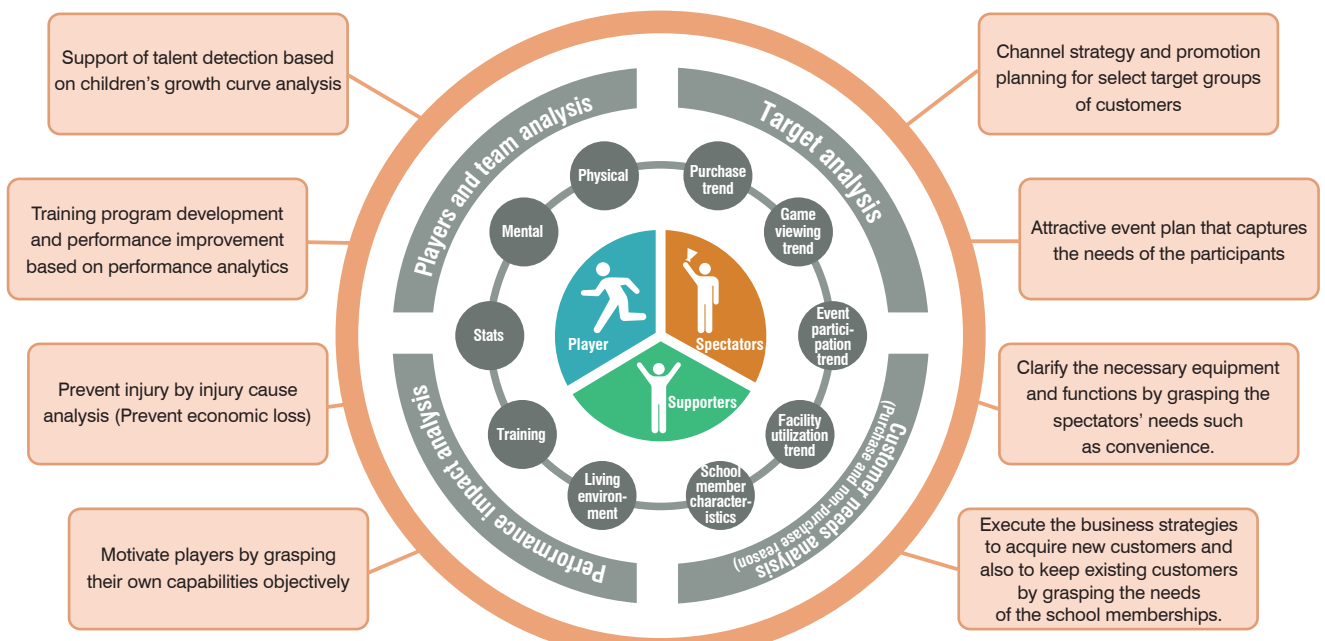
Players, Spectators, and Supporters Centric

The sports industry consists of associations, government, private companies, and facilities, while having players, spectators, and supporters at the center of the industry. Connecting these entities by data driven management is the key to success.



Trend of data driven management for sports industry

We provide services for planning and execution of business strategies which meet the needs of players, spectators, and supporters based on the data analysis. Performance enhancement of the players will be the key to create new value.



Performance enhancement (New initiative)

Management improvement (Existing initiative reinforcement)

<Case> Cause Analysis of Injury

In professional sports, the injury of players lowers the competitiveness and also causes economic loss. The prevention of injury is a crucial issue. ABeam consulting analyzed injury causes using our data analysis system for AS Saint-Etienne belonging soccer France Div. 1 league.

<Sample and research method>

- Extracted **518** non-contact injuries as samples out of 767 injuries during training and **all 36,472** sessions of games.
- 256 explanatory variables are observed, and we analyzed the causal relation between explanatory variables and injury.

<Result>

- Average non-contact injury rate during training or 1 game session is **1.44%**.
- The explanatory variables causing injury can be divided into the following two groups:
 1. External variable: Coach, pitch condition
 2. Internal variable: Weight, VMA (aerobic maximum speed test), workload

<h3>Coach</h3>	<ul style="list-style-type: none"> • It was found that there was a relationship between coaching method and injury. • Especially, coaches has most effect on the injury during training. • In case of coach A, 1.3 times more injury than average (10% of all injury). • In case of coach B, 1/10 of average. • Out of all injuries, injuries caused by training is 26%. 												
<h3>Pitch Condition</h3>	<ul style="list-style-type: none"> • Pitch condition can be divided into three variables (Grass • Artificial Grass • Soil) • In case of soil pitch, the risk of injury is 3.2 times higher than average 												
<h3>Game Results</h3>	<ul style="list-style-type: none"> • In case of lost game, injury tends to be double of wined game. 												
<h3>Game Schedule Tightness</h3>	<ul style="list-style-type: none"> • If they continue to have games every 4 days for more than 4 weeks, the risk of injury is 1.4 times higher than average. (15% of all injuries) • If they continue to have games every 4 days for more than 5 weeks, the risk of injury is 1.7 times higher than average. (7.5% of all risks) • If the games every 4 days continues less than 4 weeks, there is a strong indication of high injury risk. 												
<h3>Weight</h3>	<ul style="list-style-type: none"> • Players weighing over 83kg have 1.7 times more injury risk (3.8% of all injuries) 												
<h3>VMA</h3>	<ul style="list-style-type: none"> • In case the exhaustion accumulate, workload is getting high. Players with less than 17 VMA value has 1.1 times more of injury risk compared to regular time. (43% of all injury) 												
<h3>Workload</h3>	<ul style="list-style-type: none"> • Workload was more influenced by games than training. • We confirmed that the workload during 1 week before injury (specially1~3 days before injury) was the biggest explanatory variable. • There is 1.7 times more injury risk for 1 day before injury. ($0.92 < W.D-1 < 2.31$) than regular injury risk (48% of all injuries) • 2 day before injury ($46 < W.D-2 < 138$) occurs 1.7 times more and 30% of all injuries. • 3 day before injury ($250 < W.D-3 < 510$) is 1.5 times, and 28% of all injuries. • The result of analysis using above three combined as explanatory variables, the risk of injury becomes 3.2 times higher (25% of all injuries) under the condition described in the chart. <table border="1" data-bbox="917 1720 1449 1892"> <thead> <tr> <th>D-3</th> <th>D-2</th> <th>D-1</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>Thursday</td> <td>Friday</td> <td>Saturday</td> <td>Sunday</td> </tr> <tr> <td>250<W<530</td> <td>0<W<163</td> <td>30<W<225</td> <td>Match Injury</td> </tr> </tbody> </table>	D-3	D-2	D-1	D	Thursday	Friday	Saturday	Sunday	250<W<530	0<W<163	30<W<225	Match Injury
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