

Module 2. Open Innovation in Sports

Unit 2.1

2.1.1 The Sports Ecosystem

Case 5: BIHub Allianz SE, Adsalutem & Hexoskin - Sleep Quality Project

One great example of what can be achieved when the Barça Innovation Hub involves in a partnership is the collaboration for a sleep monitoring project between the BIHub, Allianz official insurance of FC Barcelona, Hexoskin, a Canadian startup that specializes in smart technology clothing, and Adsalutem Institute, a Catalan entity specialized in sleep medicine.

The whole project started when the long-term partner Allianz and FC Barcelona started discussing ways on how to better understand how sleep quality influenced people and, in this particular case, affected Barça's athletes. For Allianz, this topic was of large importance, as they understood that, as a global insurance lead of tomorrow, developing an understanding for a crucial part of human health like sleep could potentially benefit them a lot and lead relevant findings for future insurance applications. For Barça, the benefits and learnings for their athletes' performance and subsequent improvements were also quite obvious. When looking for partners, that could help them on this endeavor they found competent partners along the way with the startup Hexoskin and the Adsalutem Institute. On a technological side, Hexoskin provided the sleep study with a smart T-shirt collecting data while athletes were asleep. The smart garment was monitoring stats like heart rate, breathing and moving through built-in sensors. Further on, the data would be analyzed by doctors at the Adsalutem Institute with the academic support of the Universitat Internacional de Catalunya (UIC) within the framework of the 'Center for Studies of Sleep Medicine.' Allianz insuring over 250 million clients acted as a strategic partner and advisor providing expert knowledge in the health sector to the project, and was interested in better understanding the risk of bad sleep and other sleep-related health issues.



Figure 1. New advanced sleep monitoring in Garmin connect



Source: New Advanced Sleep Monitoring in Garmin Connect. [Online Image]. Retrieved November 2020 from <https://www.garmin.com/en-US/blog/fitness/advancedrem/> Screenshot by author.

With a club like FC Barcelona always striving to improve their athletes' performance as well as their overall wellbeing and health, exploring the topic of sleep quality and its impact on health and wellbeing made a lot of sense. What is more, Barça and Allianz felt that not only a project like this would benefit performance athletes but also results and learnings of the collaboration could further-on be extended to the wider society. This aspect of the collaboration was important for BIHub, as working on societal topics and giving back to the general public adheres to one of their core values. The project's main hypothesis was that performance and general health were impacted by the level of sleep quality. By analyzing the derived data, which could indicate the quality of sleep in combination with observation of the athletes and their behavior and nutrition, the hope was to gain further insights on how sleep quality impacted general health and performance on the field.

Having already worked on several data intensive projects, like Real Track, FC Barcelona knew that further collaborations and co-developments in a digital and data heavy discipline would complement their skills and strengths. Understanding these requirements was important to choose partners that would bring unique and complementary skills to the table. All involved partners understood that none of them individually would have the necessary capabilities of conducting the study on their own and that it was by pooling all their available resources together that they would form a perfect symbiosis. The study started in March 2019 and collected sleep data of 600 young athletes, aged 6 to 23, from different sections of the FC Barcelona. Next to that, an

individualized intensive study was conducted with 50 chosen athletes. Data was further collected by Adsalutem via questionnaires and Hexoskin's biometric smart shirts. Sleep quality and quantity was measured for these young athletes and subsequently correlated with performance.

Figure 2: Woman sleeping



Source: Overnight Sleep Study. [Online Image]. Retrieved November 2020 from <https://www.ucsfhealth.org/en/education/overnight-sleep-study> Screenshot by author.

What was special in this case was that the focus group of 600 young athletes was not only measured with regard to physical performance but also their academic results and overall wellbeing. This could be achieved through the unique position of FC Barcelona training the young athletes in their academy, which combined sports and education. A team of club psychologists closely monitored the athletes' behavior in classrooms and any variations in mood, which makes that data set particularly robust. Now, after more than one year, the project results concluded that low sleep quality correlates with bad temper, low academic performance, flawed decision-making and also physical shortcomings. For many years, short nights of sleep were linked to high performers, who could achieve more with less, but that mantra is slowly changing as people are realizing how important duration of sleep, but even more importantly, the quality of sleep really is.

The project has been a great success for BIHub and its partners. Allianz, for example, has gained extremely valuable insights with regard to data and information, potentially impacting the insurance business of the future. Adsalutem has been able to share data and results with researchers and students at the Universitat Internacional de Catalunya (UIC), and Hexoskin was subsequently able to improve their product by gaining extremely valuable data from high performance athletes monitored in a unique environment at FC Barcelona club. Barça finally was able to understand how important sleep quality was for their athletes and could introduce new training and nutrition regimes accounting for the importance of the above mentioned findings.

Case 6: Gatorade & FC Barcelona - The Future of Sports Nutrition

I was back in 2013 when global energy drink producer Gatorade and FC Barcelona first agreed on their still standing partnership in the sports hydration sector, committed to constant improvement of their athletes' performance that partnership made a lot of sense for the Spanish football club. The deal was not only a three-year sponsorship deal, with all of Barça's athletes using the energy drink brand and its products, but it was also subsequently part of a co-development program exploring the future of nutrition. The aim was to explore how athletes could improve their performance on the field by actively tracking and monitoring their hydration and nutrition.

In this effort, players of FC Barcelona's La Liga football team were equipped with smart bottles and a band-aid-like sensor chip that was used to actively track their nutrition and hydration stats. The smart patch would analyze the player's sweat and, via NFC (near field communication) technology, communicate with the corresponding smart bottle. The "smart cap" would be fitted with a microchip and could then indicate the hydration and nutrition needs of the user.

Figure 3: Gatorade sweat patch



Source: Gx sweat patch. [Online Image]. Retrieved November 2020 from <https://www.gatorade.com/gx> Screenshot by author.

LED lights at the top indicate actual consumption and compares it to hydration goals. An integrated cap chip further on shares real-time hydration data with a digital platform and can integrate with the coach's web app. Finally, a fuel pod, containing concentrated Gatorade formula based on the athlete's activity requirements, would replenish the player

with needed nutrients. All these measures aim to provide the athlete with all the information needed to maintain optimal performance from a nutrition and hydration standpoint.

Gatorade's high tech focus can be traced back to senior Vice President and General Manager Brett O'Brien's decision to establish an internal innovation unit looking beyond new bottle shapes and new flavors. After years of declining sales of energy drinks and growing health awareness of consumers, Gatorade had to respond to competition from VitaminWater, RedBull & Co. By looking at how pro athletes actually mixed their drinks for optimal performance, Gatorade gained valuable insights from the experts and integrated many of these learnings in their new smart bottle.

Figure 4: Gatorade Smart Cap

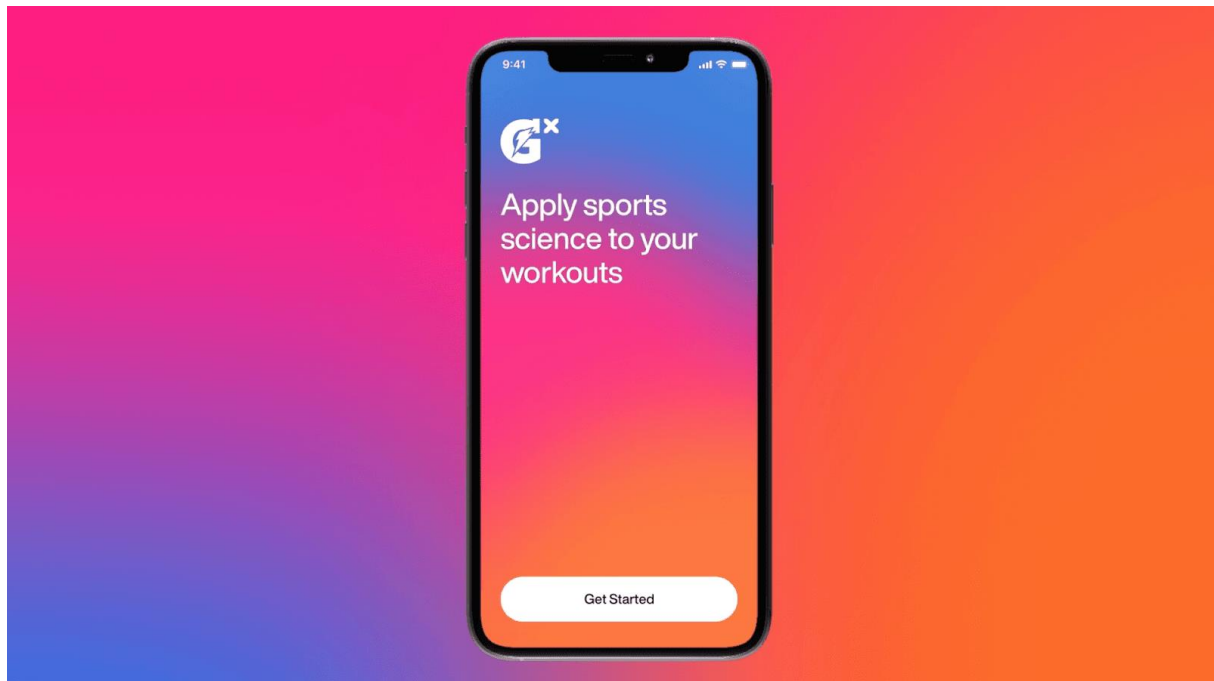


Source: Gx Smart Cap. [Online Image]. Retrieved November 2020 from <https://www.gatorade.com/gx> Screenshot by author.

The technology needed for the new bottle was developed in-house in collaboration with the brand's nutrition focused Gatorade Sports Science Institute, that benefited from PepsiCo's 40% spending increase for R&D. Testing their product with top high school and pro athletes, including the Brazilian Soccer Team, the University of Florida and FC Barcelona Gatorade aims to radically change the personalized nutrition industry. 'It's not just about capturing a bigger part of a marketplace. It's about filling a void for your consumer, and ours are athletes,' O'Brien explains (Beer, 2016). Ultimately, Gatorade is

also thinking about entering the food industry and applying their learnings from sports nutrition to a wider customer base.

Figure 5: Gatorade app



Source: Gx app. [Online Image]. Retrieved November 2020 from <https://www.gatorade.com/gx> Screenshot by author.

2.1.2 Findings. The Sports Ecosystem

In order to provide meaningful innovations, the best skills brought by the most qualified collaborators are needed. These collaborators are rarely found in one company and are usually scattered around different institutions. We call this 'innovation ecosystem', and there are various factors playing into its success. Here, it is important to mention that an innovation ecosystem by definition does not consist of formal partnerships or comparable constructs. Much rather, it can be understood as a collective of loosely associated companies or individuals that work together or collaborate in similar innovations.

When companies seek out to establish said ecosystems, undeniably one of the key factors to touch on, though, would be the importance of partnerships with universities, research centers, other startups and others. When establishing these partnerships, entities must look for partners with complementary skill sets, resources and knowledge. In the case of FC Barcelona, these complementary skill sets, for example, included technology and knowledge needed on how to develop an e-learning platform or a tracking system for

their players. These skill sets were not attainable in-house, which is why the BIHub sought to establish partnerships with external partners. Moreover, in case of the sleep quality project, FC Barcelona did not have the necessary skills needed to track their athletes' sleep and subsequently make sense of attained data, which is why partnerships with external players made perfect sense. FC Barcelona, like many other sports institutions and entities outside the sports industry, did not have all necessary infrastructure and knowledge needed for their innovation efforts. Without the resources and organizational structure allowing them to heavily invest, it made much more sense to leverage their existing assets and look for partners that had the needed complementary capabilities.

Another important aspect for high-quality and long-lasting relationships is the selection process. As there are different kinds of partners, it is important to select the right ones. After defining needs for their projects and problems, actors can start the search process for eligible partners with the needed resources. Another way of finding partners can also be to let them come to you. For this to work it is necessary to market and position the organization in a way so that relevant partners are able to find them.

Talking to the BIHUB's Director, Albert Mundet, and the FC Barcelona's US Ambassador for the world of sports, Steve Gera, a three-method funnel can be identified:

1. **Scout:** This refers to the part of the process when sports institutions employ professional scouts who are actively looking out for opportunities. These scouts would attend conferences, visit incubators and accelerators in order to network and potentially find startups working on challenges in the club's area of interest, and subsequently, if suited, kick-start the process of collaboration.
2. **Let them come to you:** Organizations should make sure that they have a solid marketing strategy for their programs, an innovation lab, for example, in order to attract potential partners and have them make the approach. Spending resources on market in order to be known can sometimes be spent way more efficiently than scouting, and on the flip-side strengthen the organization's brand. Having the reputation of being a center for knowledge creation and innovation excellence has proven to be beneficial for many businesses.
3. **Build startups from scratch:** This approach is more broadly used outside the sports world and it constitutes a model that has only just started entering the sports world. One of the most prestigious examples would be the Mamba Academy, a non-profit organization enabling underserved athletes. Another example is LA-based Science Inc., a team of entrepreneurs and consultants who find entrepreneurs and help them build their company together and have notable successes; the Dollar Shave Club has been one of their most recent and known successes.



Often overlooked, but as important as the sourcing process, is the aspect of cultural fit. In the area of sports, for example, partners of FC Barcelona needed to understand and work around certain constraints, like limited resources of the club and the seasonality of the sports environment. After adjusting to these constraints, BIHub's partners were still able to test their products with great results.

Last but not least, we see that proximity and convenience of communication and testing facilities can play an important role when trying to establish a prosperous ecosystem and collaboration between entities. As seen in the discussed cases, for both of them proximity played a major role in being able to quickly iterate and innovate accordingly. In the FC Barcelona case, Hospital Clinic and ESADE Business School were both situated in the city of Barcelona. The Spain-based company Real Track System also profited from short iterations with the football club.

In the case of BIHub, for external partners like startups, universities, research centers and other entities, collaborating with a successful organization and brand like FC Barcelona was a big incentive. What is more, startups and other corporations often seek to test, refine and iterate their products in the so-called "testing-grounds" before releasing a final product to the end consumer. In module 1, we talked about how this process of testing and iterating is an integral part of the innovation and so is the product development process. In the case of the sleep quality project, having access to hundreds of highly enthusiastic sportsmen as a testing ground provided BIHub's partners with lots of benefits. In general, having experts like coaches, players and trainers willing to test products like wearables or nutritional products that are also intrinsically motivated to work on new projects, in order to constantly improve the club's performance, provided the ecosystem with exceptional value. Seeing how collaborations can make sense for both parties, it is important to mention that there should always be complementary capabilities and skill sets and gives and takes on both sides. These can vary, though, and do not always need to be financial. When looking at the FC Barcelona sleep quality case, other factors like expert knowledge and the strong brand were more important than financial incentives. Allianz and Hexoskin were able first to test their products with a smaller user base and could subsequently scale these learnings for product iterations meant for larger audiences.

Finally, it has to be mentioned that not only corporate partners should be sought when developing sports solutions but also fitting partners can be found in less related industries and broader communities, as we saw in the example of Allianz and the sleep quality case. These companies look at sports audiences firstly for first testing purposes and subsequently roll their products out to broader scopes.



We can conclude that one of the most important aspects of innovation in the sports ecosystems is the need to find complementary skill sets and diverse partners in order to fully leverage the partnership. Last but not least, we are seeing that these partnerships yield their biggest successes and benefits when there are indeed mutually beneficial arrangements for all involved partners to incentivize lasting effort and continuous investments.



Unit 2.2

2.2.1 Co-Innovation in Sports

Case 7: Nozomi Networks - Enel Collaboration

Figure 6: Nozomi hybrid ICS threat detection



Source: Nozomi hybrid ICS threat detection. [Online Image]. Nozomi Networks Answers the Call for Advanced ICS Threat Detection and IT/OT integration with Latest Release. Retrieved November 2020 from <https://www.nozominetworks.com/press-release/nozomi-networks-answers-call-advanced-ics-threat-detection-ot-integration-latest-release/> Screenshot by author.

Having the opportunity to co-develop and to test technology at a large scale can often be more important for startups than simple investments. This is highly visible in the following case of the energy industry. The two main actors, Dr. Andrea Carcano and Dr. Moreno Carullo, two computer engineers from Italy, in 2013 approached Enel, one of Italy's largest energy companies in order to test their innovative cybersecurity solution.

The solution was based on Carcano's academic research, which showed that cyber threats and anomalies could be detected by monitoring normal network behavior and subsequently spotting deviations from the norm. What is more, Carcano had also acquired deep domain knowledge and strong practical experience with cybersecurity when working as a senior engineer at the Italian energy company Eni. While working as a security engineer, he was often reminded of his academic research and the way in which its practical application of making network deviations digitally visible could solve one major security problem in the context of network security.

Fueled by these findings, in 2013 Carcano left Eni and together with Carullo decided to turn his research into a company. Nozomi Networks was born. Despite their sound academic background, the team struggled to find a partner that would help them turn their first MVP into a fully developed solutions. After more than 50 interviews with potential partners, they were close to giving up when one of their partners introduced them to Enel.

Just one year later, in 2014, Enel approved the testing of their cybersecurity solution, Scada Guardian, on a remote-control infrastructure of a hydroelectric facility in Italy. Crucial learnings from this small-scale pilot with the Enel enabled Nozomi Networks to improve their product with important real world input. They scaled up their solution and within the first year applied their product to all of Enel's hydroelectric remote-control facilities in Italy.

Figure 7: Oil rig



Source: Oil Rig. [Online Image]. Retrieved November 2020 from <https://www.pinterest.at/pin/442337994630537633/> Screenshot by author.

Carcano remembers that



There were several trials & errors along the way, as you would expect with the new solutions. Enel managers stayed patient and gave us several chances. At the end of two days we were able to show the first proof. They gave us a lot of feedback and 15,000 EUR that we needed to complete what was required. After six months of following their feedback and iterating fast, we completed first application successfully. Now that we had the proof of concept, they gave us 100,000 EUR and a green light to scale the solution to other applications.

Promising results of the pilot testing with Enel sparked interest from other players in the industry. After a \$2 million investment by Planven fund in 2015, in 2016 Enel decided to sign a three-year partnership with Nozomi Networks. In the same year, after developing new features under INCENse, a European acceleration program for clean technology co-financed by the European Commission, they received another \$7.5 million in funding.

The important partnership with Enel continued to prosper and enabled Nozomi with further feedback it used to improve their product. After further testing and a joint project with Enel and Canadian utility HydroQuebec, by 2018 Nozomi had raised a total of \$45 million and achieved a valuation of over \$100 million.

Figure 8: Nozomi Networks advertisement



Source: Nozomi Networks introduces new SaaS-based solution for OT and IoT. Retrieved November 2020 from <https://industrialcyber.co/technology-solutions/industrial->

iot/nozomi-networks-introduces-new-saas-based-solution-for-ot-and-iot/ Screenshot by author.

Case 8: Co-Innovation inside FC Barcelona

Barça Innovation Hub (BIHub) was formed to facilitate innovation for FC Barcelona, staffed with innovation managers that can help in scouting and establishing relationships with the sports ecosystem. However, Barça Innovation Hub did not have innovators on their own and have relied on the club itself to staff the projects. For example, RealTrack Systems was coordinated by the Barça Innovation Hub and their innovation manager in charge of sports performance, but it was actually the physical trainers from the club that were the main stakeholders internally. Considering these internal trainers had their daily jobs and are, in addition to that, involved in the projects related to innovation, it is important to consider how to motivate them.

Figure 9: Cross-functional collaboration



Source: Cross-Functional Collaboration [Online image]. Why Your Company Needs More Collaboration. Retrieved November 2020 from <https://sloanreview.mit.edu/article/why-your-company-needs-more-collaboration/> Screenshot by author.

Although established with the goal to push innovation and boundaries in the sports industry, the mindset for this organization within an organization had to first be established. It was clear for the BIHub that not only external partners or startups need management but also internal stakeholders are affected and, therefore, require management effort. When starting out, it was therefore extremely important to figure out how to align internal stakeholders on innovation and navigate potential road blocks. For

Albert Mundet, director of the BIHub, the question that arose consisted on how he could get professionals within the FC Barcelona to start thinking about leveraging innovation and knowledge existing within the club. One of his first moves as director of the BIHub was to create multi-disciplinary teams. In order to identify problems and challenges, it was important to have different teams with complementary skill sets.

Figure 10: Data analyst presenting work results



Source: What does a data analyst do?. Retrieved November 2020 from <https://www.jobsite.co.uk/worklife/data-analyst-role-19850/> Screenshot by author.

An example that has already been touched on, the collaboration with Real Track, was early involved in these organizational learnings. BIHub brought together 25 physical trainers from different sports teams within the club in order to define KPIs needed to develop a solid and flexible tracking solution. In order to be able to manage the technical aspects, experts with telecommunication backgrounds were brought on the project and collaborated on the problem finding phase with Barça's trainers.

Another important stakeholder group that enabled the fruitful partnership with Real Track Systems were FC Barcelona's innovation managers. Their main role and job consists of constantly scouting and tracking the sports industry for interesting partners and organizations, potentially working on innovation projects that could be relevant for FC Barcelona. In BIHub, they have clear KPIs with regard to attracting innovation and partnerships, and are the main reason why FC Barcelona could turn innovation from a cost center into a self-sustained arm of FC Barcelona and in recent years even a profit center. Because of its ownership structure, FC Barcelona is not allowed to directly invest into startups. That means that innovation managers need to understand what other

benefits FC Barcelona can bring to startups. Through partnerships and co-developments, and by leveraging FC Barcelona's unique resources and skill sets, BIHub was subsequently able not only to attract innovation but also to introduce new important revenue streams for FC Barcelona.

From an innovation perspective, project managers from the BIHub were involved in order to complete the teams. The overall idea was to bring people with complementary skill sets together to work on one problem. It was not easy to get physical trainers and other staff involved, but their buy-in was integral for the success of the collaboration with Real Track, other future projects and the BIHub in general. So, how did the BIHub do it?

Figure 11: BIHub technology advertisement



Source: FC Barcelona y la Tecnología en el Deporte – Sports Technology Symposium 2017. Retrieved November 2020 from <https://objetivoanalista.com/tag/Barça-innovation-hub/> Screenshot by author.

Some aspects were important in this process:

1. **Alignment with executives:** What needed to be achieved first was to align with executive teams of all the club departments. Leaders had to understand the importance of the BIHub in order to develop their talents. In the example of Real Track there were real life tangible benefits that trainers and executives of the club could understand.

2. **Financial aspect:** When BIHub would co-develop products, there was a sustained financial benefit for both the club in general and the different divisions that were directly influencing the physical trainers budget. In the example of Real Track, all Barça teams received discounts and could, therefore, use the technology much cheaper than teams from other clubs.
3. **Personal brand incentive:** Being engaged with internal projects for the BIHub has career benefits and gives trainers a boost for their personal brand. This aspect also applies to collaborations with external stakeholders. Such is the case of doctors, who need to constantly update their skills: being engaged with Barça Innovation Hub projects helps their personal brand and credibility.

2.2.2 Findings. Co-Innovation in Sports

In the context of co-innovation in sports, it is important to understand that not only do startups or external partners need management, but also internal stakeholders are affected and require management efforts. The question to be answered is how to go through this process of successfully aligning internal stakeholders and navigate innovation. From both internal and external perspective, one of the first key things to do is to select the right talent to start with. Following this train of thought, talent needs to be selected and internal skill sets need to be discovered and managed. In the case of RealTrack Systems, at FC Barcelona, the right internal physical trainers, the right engineers and data scientists needed to be selected. This was important to know what KPIs (key performance indicators) were important and how these could be organized. Another integral part was to match this internal talent with the right external talent, preferably, with complementary skills and capabilities. In the problem analysis with Real Track, it was discovered that telecommunication engineers from UPC Barcelona represented the right external talent and knowledge fit in order to finetune the technology. The idea is, therefore, to bring together the right people, internal and external, with complementary skill sets.

Apart from understanding the internal stakeholders' perspective on the problem, it also needs to be pointed out that most often there are different stakeholder profiles internally. This means that some of the internal stakeholders tasked with innovation topics are more broadly focused, with a variety of different ideas on finding solutions, having a broad scope, and others are more focused and are trying to implement certain initiatives.

Another important finding in the understanding of how to successfully co-innovate was that internal stakeholders needed to be brought onboard and get involved in the process. In the case of FC Barcelona, the top management set KPIs that were subsequently handed

down to more practically involved stakeholder groups like the physical trainers, sports nutritionist and doctors, all who play crucial parts in the athletes' success. We should not forget these last stakeholder groups are in direct exchange and contact with one of FC Barcelona's most important stakeholder groups, the athletes and players themselves.

Steve Gera describes five core reasons with small examples that can be used to convince people internally to adopt an innovation process:

1. Learning faster: This is a great argument for CEOs, coaches, among others. For example, former Team Sky's (now INEOS) director would constantly emphasize the importance of marginal gains needed to achieve the necessary edge to win in sports. By sharing his story, he attracted lots of other people in his environment, and they could eventually streamline their innovation learning approach.
2. Meeting changing customer needs: Understanding that both internal and external customers have ever-changing requirements and pain points that need to be addressed constantly should be innovated on. FC Barcelona and RealTrack System illustrate this approach really well.
3. Standing out from competition: Such is the case of the Oakland Athletics, one of the smartest teams in major league baseball and the responsible for the introduction of the moneyball method in MLB. From the need to win games, they innovated with the use of statistics and analytics. In sports, there are two currencies nowadays to attract players and external investments: the currency of winning and the currency of being an intellectual center of gravitas.
4. Attracting high quality talent: Such is the case of the San Antonio Spurs, who attract some of the best players and best practitioners like trainers and doctors who want to work with an innovative company and are drawn by excellent leadership. These factors are great arguments for CEOs and team presidents, as they all want the smartest people to work for them in order to win more.
5. Winning more on and off the field: Winning more games and winning more money on and off the field. Such is the case of the Boston Red Socks, a MLB team, who had deep pockets from owners and, at the same time, established a moneyball political approach. They hired some of the smartest minds and created a very organic innovation process already in the mid 2000s. Thereby, they were able to resurrect themselves from near winners to a now winning team. These days they have one of the largest and most profitable fan bases.

In the case of RealTrack Systems and FC Barcelona, the most important stakeholders to involve were the physical trainers. They were, for example, interested in meeting the changing needs of their players. Albert Mundet points out three important aspects with regard to stakeholder management and buy-in:



1. It was crucial to have an alignment with the executive areas of all departments in the club. In order to arrange duties, top-level management buy-in needed to be achieved first. As soon as the leaders of FC Barcelona understood that the Barça Innovation Hub was important to develop talent and technology for the club -which would potentially lead to a competitive advantage for the club- they were convinced to do it.
2. Co-development of products not only meant that knowledge and insights were created, but also that through supplier client relationships cost savings could be achieved. Albert Mundet describes how that impact on the club's triple-bottom line would eventually be an integral part and indicator of BIHub's performance from a club perspective. When looking at the example of Real Track, all Barça teams were eventually able to purchase the technology for a much reduced price, which had real world implications, as it freed up important funds for the physical trainers.
3. Working together with an established and renowned brand like FC Barcelona meant that the impact on the various stakeholders' personal brands became an important incentive. For instance, for doctors collaborating on the sleep monitoring project with Allianz and BIHub, this work was part of their research projects and PhDs, and was essential to continually develop their own brand and career. Besides, in the case of physical trainers, being involved in technology projects at FC Barcelona improved their personal brand and credibility.

Generally speaking, we see that three types of people are needed in an organization in order to successfully innovate.

1. **Igniters:** These have a very broad scope and continually bring in good and novel ideas. Their broad scope enables them to understand different opportunities. Igniters have less focus and more scope. The igniter will be the least focused of the three types, always looking at an umbrella of opportunities and constantly trying to churn out ideas.
2. **Implementers:** These are people who understand not only the external environment but also the internal one, and manage to bridge and contextualize the idea to the particular club or institution. Being project-management-oriented, they take an idea, mold it, test it and organize a fluid transition to the third important stakeholder. In general, you expect them to be moderately focused to implement a project.
3. **Experts:** They are actually using the product and idea on a day-to-day basis and need to be in constant exchange with implementers with their feedback for iteration and improvement. Experts are good at figuring out how to actually translate ideas to specific goals but need to be hyper-focused to win.

Generally, you want all three of these people types to be multi-disciplinary with different backgrounds but, ideally, with a similar appreciation to what each does in the organization.

To summarize, for a successful co-development innovation process to take place, it is important to find the right skill set and attitude internally and have a diversity of skill sets and diversity of attitudes in your team. Furthermore, you need to incentivize your stakeholders by finding the right arguments that are compelling and convincing from the perspective of their roles, as well.



List of Acronyms and Abbreviations

AI	artificial intelligence
AR	augmented reality
BIHub	Barça Innovation Hub
FCB	Football Club Barcelona
FIFA	International Federation of Association Football
KPI	key performance indicators
MLB	Major League Baseball
ML BAM	Major League Baseball Advanced Media
MVP	minimum viable product
NBA	National Basketball Association
NFL	National Football League
NHL	National Hockey League
OTT	over-the-top
RTS	RealTrack Systems
WWE	World Wrestling Entertainment



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