

## The Virtual Reality And Hard Data Of Successful University Start-Ups That May Succeed...Or Not!

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### Abstract

*University technology start-up companies have the advantage of kick-starting their business with valuable intellectual property assets, a privilege very few start-ups have.*

*In all other aspects, university start-ups are faced with the same challenges any start-up would have, and probably have the additional disadvantage that very few professors are born business experts.*

*It is important for any start-up to have at least two essential strategies in its management portfolio: (1) a risk management plan that considers scenarios of liability, both financial and potential legal consequences for the business, especially in the early stages, and (2) an IP strategy ensuring ownership, proper exploitation and management of the valuable assets, whether they are trade secrets, know-how, copyright or any of the registered IP rights.*

### Introduction

Technology transfer is the process whereby innovation and research from an organization are developed into potentially patentable and licensable products or services for the marketplace, either through licensing to an industry partner or through a start-up company. The scope of this article is the technology transfer out of universities. There the aim of technology transfer is dual: assisting with funding of the next generation of research and innovation, and/or spinning out and growing a start-up into a successful business.

As most university inventions are very early stage and require a lot of further research and development, the university technology transfer model is based on identifying a willing, although often not the most suitable, commercial partner as licensee or as an equity investor partner in a university start-up.

The licensing model is based on the requirement that the licensee must make significant investments such as time, effort and money to commercialize the technology, product or service. Licensees are often required to carry cost for prosecuting and maintaining the underlying patent portfolio, while ownership often remains with the university licensor. A license would typically include certain milestones that are to be met over a defined period of time, which could entail investment support such as further research product development funding, manpower and funding for technical trials required for regulatory approvals, or sales and marketing support.

Generally, universities attract high-achieving students with multidisciplinary backgrounds, providing a well-rounded team of individuals for early stage start-ups. The challenge in the case of a university start-up, despite entrepreneurship programs and ample government grant funding, is that most university researchers do not understand what running a business entails and consequently fail to make a sustainable impact with their ideas in the market. Mobilizing start-up initiatives that achieve measurable success is not always an easy task. Business and IP strategy, as well as related development plans, evolve and change over time as the company grows. Challenges facing start-ups include lack of manpower, lack of skills, high technology development requirements, lack of adequate IP protection, lack of market potential and funding needs.

What remains unique and special about university technologies is that the innovation ranges from life-saving medical devices to new, ground-breaking AI-powered analyzers and sensors, a range that provides attractive opportunities for venture capitalists who seek to invest in new sources of value and profit.

### The IP Strategy Model

A university start-up is formed when the researcher-founders spin out a company based on some form of research that appears to have business potential. A university start-up has the advantage that it generally has access to an IP base, as most university technologies with commercial potential get protected by intellectual property rights such as patents, utility models, plant breeder's rights, copyright, design rights, trademarks and know-how.

Intellectual property rights are valuable assets, and in the case of a university start-up, often the only assets a start-up has access to. Patents are oftentimes the most expensive registered intellectual property right to obtain, but they provide the best scope of protection for university IP, as it secures the right for a proprietor to exclude competitors from making, using, selling or even offering a patented invention. Having an IP portfolio can drive consumer demand and/or distinguish one's product or service from that of competitors. An IP portfolio can

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become very valuable, especially considering its ability to attract investors, since IP rights serve as a barrier to entry by competitors. IP rights can also help the finances of a business by providing an opportunity to generate revenue from licensing. As such, it makes sense for the start-up to have a defined IP strategy that clearly supports the business model and can be communicated to the team, as well as to the stakeholders.

Intellectual property strategy for a start-up is not limited to protection of its technology and brand through registrable rights. There are many other potential problems that need to be addressed. As the business grows and projects are outsourced to consultants, or there are other fluctuations of staff, the challenges increase for the IP management. In early stages for the start-up, obtaining its own intellectual property is essential. This may be the result of improvements on the university-licensed IP or through new developments such as brand building. Start-ups should also ensure that proper mechanisms are in place. These include appropriate agreements for IP assignment from employees and consultants,<sup>1</sup> confidentiality undertakings from staff, contractors, consultants and potential investors (that set out the confidentiality terms applicable to the scope of disclosure, specific rights to the limited use of information<sup>2</sup> and the duration of confidentiality), and registering trademarks<sup>3</sup> and domain names early.

## Legal Pitfalls

Among the most important legal documents for a start-up are the shareholders' agreement and the memorandum of incorporation. These are the foundation documents for any start-up, as they set out the structure of the company, as well as regulate the rights and obligations of the parties. These may include such things as how decisions are made (voting rights) and procedures for handling eventualities such as shareholder exits, sales of shares to a third party, rights of first refusal for remaining founding shareholders, etc.

Beware the “do-it-yourself” approach on any form of agreement. This is a problem that plagues most start-ups. All too often, start-up companies are busy establishing the business and chasing funds, so they think that any standard *pro-forma* agreement will do, and the start-up gives little or no consideration to the potential legal consequences of these agreements. Sometimes negotiations

1. Where work products are requested from external contractors or consultants, written assignment of ownership to IP must be obtained. Often start-ups are unaware that the mere receiving of a deliverable work product is not assignment and transfer of IP ownership underlying such deliverable.

2. Specific care should be taken to avoid any implied license for IP under the non-disclosure agreements (NDA).

3. Trademark availability searches should be conducted before use of any trademark or branding. This is to avoid potential risk where a third party may already own the trademark.

of contracts start with good intentions but, as the business continues without a contract actually being signed,<sup>4</sup> conduct and behavior may end up being different from the provisions intended to be agreed in the contract, which poses a risk of legal consequences the start-up did not intend. Master agreements as such rarely work, and this is an area where qualified legal counsel initially, and at least for final checking, is absolutely necessary.

The last thing a start-up company needs is litigation that could have been avoided by implementing (and enforcing) reasonable legal controls. Litigation is a costly and long-lasting process, and it can usually be avoided if some diligence procedures are in place.

## Why Do Some Start-ups Fail and Others Do Not?

A Google<sup>®</sup> search for the phrase “why do start-ups fail” tells us 130 million stories in 0.52 seconds. Yet new start-ups arise every day. See Figure 1.



Forbes statistics in 2019<sup>5</sup> show that mentored start-ups grow much faster and raise more money than those start-ups who don't have access to mentorship programs. The statistics also show that technology-based start-ups (which is where university start-ups qualify), are less likely to be successful than non-technical start-ups. Interestingly, over 70 percent of start-up founders eventually realize that their initial intellectual property is not a competitive advantage,<sup>6</sup> generally because many innovations have a long development time.<sup>7</sup> Selecting the wrong idea to innovate represents 32 percent of innovation failures.<sup>8</sup>

4. Beware the contracting by email—some courts have found that contracting by email is completely legally binding, even in the absence of a signed contract, see for example *Forcelli vs Gelco* (New York, USA): [nycourts.gov/reporter/3dseries/2013/2013\\_05437.htm](http://nycourts.gov/reporter/3dseries/2013/2013_05437.htm); [www.upcounsel.com/is-an-email-legally-binding](http://www.upcounsel.com/is-an-email-legally-binding); [hg.org/legal-articles/at-what-point-does-an-email-become-a-binding-contract-46423](http://hg.org/legal-articles/at-what-point-does-an-email-become-a-binding-contract-46423) (accessed 08.04.2020) Rather seek expert advice in your country, but best, DO NOT contract via email.

5. [forbes.com/sites/abdoriani/2019/10/24/11-surprising-and-insightful-statistics-about-startups/#50e3a0c46120](http://forbes.com/sites/abdoriani/2019/10/24/11-surprising-and-insightful-statistics-about-startups/#50e3a0c46120) (accessed 08.04.2020).

6. [gallery.mailchimp.com/8c534f3b5ad611c0ff8aeccd5/files/Startup\\_Genome\\_Report\\_Extra\\_Premature\\_Scaling\\_version\\_2.1.pdf](http://gallery.mailchimp.com/8c534f3b5ad611c0ff8aeccd5/files/Startup_Genome_Report_Extra_Premature_Scaling_version_2.1.pdf) (accessed 08.04.2020)

7. [bcg.com/publications/2015/growth-lean-manufacturing-rising-need-for-innovation-speed.aspx](http://bcg.com/publications/2015/growth-lean-manufacturing-rising-need-for-innovation-speed.aspx) (accessed 08.04.2020).

8. [forbes.com/sites/abdoriani/2019/10/24/11-surprising-and-insightful-statistics-about-startups/#50e3a0c46120](http://forbes.com/sites/abdoriani/2019/10/24/11-surprising-and-insightful-statistics-about-startups/#50e3a0c46120) (accessed 08.04.2020).

Based on the experience at Stellenbosch University, which incidentally reflects these results, university technology transfer offices with incubators<sup>9</sup> and accelerators that incorporate mentorship programs are more likely to produce successful start-up businesses that are sustainable<sup>10</sup> and grow over time. It is often not the technology transfer model as such that fails, but rather the challenge of getting the right people involved in the team.

According to a 2019 OECD report, “start-ups founded by researchers introduce innovations that are more radical compared to other start-ups. While start-ups founded by undergraduate students receive less VC funding and are less likely to exit via IPO or acquisition, those created by researchers are as successful as their non-academic counterparts.”<sup>11</sup>

As such the challenge doesn’t seem to be the university professor’s lack of skills or knowledge but rather whether the start-up business knows how to prioritize and guide improved performance, value, and sustainable growth.

It is essential for a start-up business to have the ability to immediately recognize opportunities and challenges and to design the strategic imperatives necessary to maximize chances while overcoming difficult times and thriving despite them. CBInsights analyzed the reasons for start-up failure of 110 enterprises and published the results.<sup>12</sup> Of the top 20 reasons why start-ups fail, many are obvious. These may include an inability to reach the market (no demand, time to market too slow), limited funds, or not having the right people in place. See Figure 2.

A successful start-up has a product or service that meets a burning need, pays attention to all the finer details of implementation (including IPRs), serves its customers, has the right balance between quality and quantity, as well as complementarity of work force, has the potential, ability and motivation to grow fast to acquire relevant market shares and sustain growth, and the ability to recover from the inevitable problems every start-up faces.<sup>13</sup>

In this paper, two case studies illustrate many of these aspects. The start-ups are at different phases of growth and are both operating in fast-growing industries, *i.e.*, data security management and virtual reality.

9. Such as LaunchLab at the Stellenbosch University [innovus.co.za/launchlab-1.html](http://innovus.co.za/launchlab-1.html) (accessed 08.04.2020)

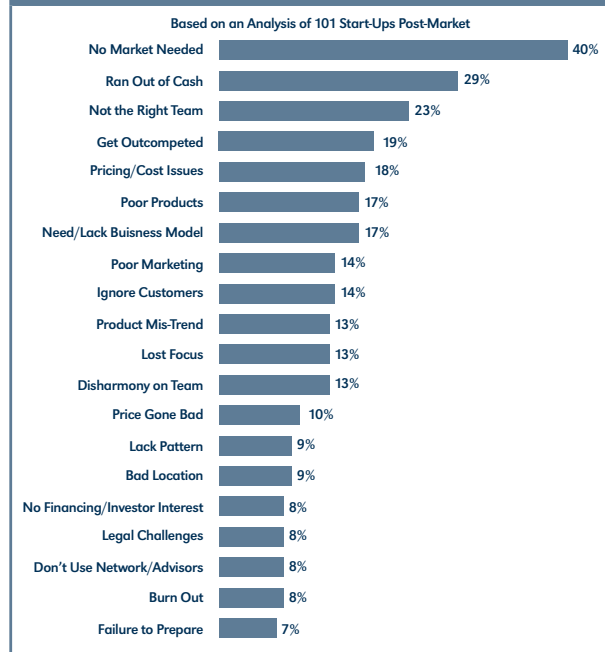
10. [innovus.co.za/spin-out-companies.html](http://innovus.co.za/spin-out-companies.html) illustrating some start-up businesses spun out from Stellenbosch University (accessed 08.04.2020).

11. Report on Public research and innovative entrepreneurship [oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CIIE\(2018\)13/FINAL&docLanguage=En](http://oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CIIE(2018)13/FINAL&docLanguage=En) (accessed 08.04.2020).

12. [s3-us-west-2.amazonaws.com/cbi-content/research-reports/The-20-Reasons-Startups-Fail.pdf](https://s3-us-west-2.amazonaws.com/cbi-content/research-reports/The-20-Reasons-Startups-Fail.pdf) (accessed 08.04.2020).

13. [forbes.com/sites/neilpatel/2015/01/16/90-of-startups-will-fail-heres-what-you-need-to-know-about-the-10/#154da9cf6679](http://forbes.com/sites/neilpatel/2015/01/16/90-of-startups-will-fail-heres-what-you-need-to-know-about-the-10/#154da9cf6679) (Neil Patel—Entrepreneur) (accessed 08.04.2020).

**Figure 2. Top 20 Reasons Start-Ups Fail**



## CUSTOS

The need for data security management is increasing. Arguably, 90 percent of all data in the world has been produced in the last two years. Everything is measured, logged and documented. Statistics on just about everything is available within seconds. Data is a valuable asset if it is available in real-time and accessible anywhere, any time. The world’s volume of data has been growing exponentially year after year, enabling progress in artificial intelligence, but also creating opportunities for cyber criminals. *Forbes* reports data breaches that exposed 4.1 billion records in the first six months of 2019.<sup>14</sup> According to IBM and the Ponemon Institute’s annual Cost of Data Breach report, data breaches cost companies in 2019 approximately U.S. \$150 per record.<sup>15</sup>

For many businesses, a data breach can be a disaster. The compromising of secure customer information and internal business data, such as inventory lists, transaction history, confidential document leakage, and the loss of other privileged information through cyber fraud can cripple a business’s operations.

To understand why data breaches are still an issue in an industry that spends billions on protection, one needs to understand the three components of data infrastructure: storage, distribution, and human factors. A complete data security solution must address each of

14. [forbes.com/sites/daveywinder/2019/08/20/data-breaches-expose-41-billion-records-in-first-six-months-of-2019/#19f03d93bd54](http://forbes.com/sites/daveywinder/2019/08/20/data-breaches-expose-41-billion-records-in-first-six-months-of-2019/#19f03d93bd54) (accessed 08.04.2020).

15. [ibm.com/security/data-breach](http://ibm.com/security/data-breach) (accessed 08.04.2020).

these components. Encryption secures storage. Access control secures distribution.

In 2013 in a prestigious MIH Media Lab at Stellenbosch University, South Africa, CUSTOS<sup>16</sup> was born.

Custos Media Technologies<sup>17</sup> was spun out as a university technology start-up by an experienced cross-disciplinary team specializing in signal processing, distribution systems, cryptocurrency, machine learning and media and behavioral economics. Since then the team has grown to include various experts in the fields of watermarking technology.

The founders have developed a system and method for monitoring third-party access to a restricted item, such as a document, a film, music, or similar electronic media. The technology is based on cryptography, whereby key data is embedded in the restricted item, the key data being associated with a store of value and usable to conduct a transaction against the store of value. A record of such a transaction becomes visible in a transaction ledger. The transaction ledger is monitored to determine whether a transaction against the store of value has occurred, in which case the restricted item is designated as having been accessed by a third party.

In simple terms, the technology is based on cryptocurrency, like bitcoin, a medium of exchange that relies on cryptography to secure financial transactions and control availability. The system embeds a unique code into each media file that unlocks a cryptocurrency deposit. Whenever a user illegally shares a file to which that user has been granted access, the code in the file can be found and the copy tracked. The innovation was protected by patent,<sup>18</sup> and the intellectual property initially licensed to the start-up.

The business's most important assets were its intellectual property. The IP strategy of the business was to exploit intellectual capital through the skills and know-how of the multidisciplinary team comprising CUSTOS's management team, register trademarks for the business and the products it developed, build a strong brand, and negotiate an assignment of the patents and patent applications from the university. The business model included forming a separate IP holding company (CMT RESEARCH (PTY) LTD), wherein the IP is housed to safeguard it from risk in the event the operating entity were to experience financial difficulty or completely fail. This would enable the university to regain control over the IP assets in the event of failure.

In early 2016, CUSTOS launched its product, Screener Copy, as a demonstration of the working of CUSTOS's block chain tracking technology. The first version of Screener Copy had very basic functionality: users could upload their movies, CUSTOS would then watermark it

with the proprietary tracking technology, and then send out the copies to the intended recipients. Since then, CUSTOS has developed a full stack of modular products that can be combined to meet the needs of a range of media customers in different markets and regions.

CUSTOS is a great example of how the South African start-up ecosystem has been leveraged to advance SME growth. The R&D spin-out received seed funding from the South African Technology Innovation Agency with the support<sup>19</sup> of Innovus Technology Transfer Office, was elected as a winner of select start-up competitions at the Stellenbosch University Incubator LaunchLab, participated in the Grindstone Accelerator program, and ultimately received local angel investment and international VC funding. CUSTOS raised U.S. \$265,000 in their second round of seed funding, part of which came from a local angel investor and the rest from New-York-based Digital Currency Group. CUSTOS partnered with other leading experts that complemented their service offering.

CUSTOS provides industry-leading encryption and hyper-granular access control via block chain technology to secure the human element of data infrastructure. This technology enables media companies to dissuade consumers from illegally sharing media they've purchased through various product offerings.<sup>20</sup>

In reference to CUSTOS, Ventureburn reported in 2017, "(w)ith Hollywood always looking to fight movie piracy, this is one start-up you're bound to hear more of."<sup>21</sup>

The business grew very fast and attracted more investors. A non-binding agreement was signed between CUSTOS and the venture capital firm HAVAIC<sup>22</sup> in March 2019. Part of the conditions of the non-binding agreement was that, beyond investing in the round, the VC would act in an advisory capacity for the upcoming round, for which it would be remunerated a fee of 3.95 percent on the investment amount of each investor committing to the round.

In April 2019, one of the VC's partners sent the start-up's founders a written offer of purchase. A dispute arose and the parties could not come to agreement. In early 2020 HAVAIC sued both the start-up and its IP holding entity.

It is reported on Ventureburn that the VC argues that the investment was accepted and, on this premise, money was sourced from private investors.<sup>23</sup> CUSTOS argues

16. CUSTOS is latin for guard, according to the Merriam-Webster dictionary.

17. *custostech.com* (accessed 08.04.2020).

18. Patented (US9595034) and patent pending for other national validations from WO2015059669/EP3061057A1.

19. IP support, company secretarial support, corporate management skills and legal advice.

20. *custostech.com/technology/* (accessed 08.04.2020).

21. *ventureburn.com/2017/02/south-african-startups-2017-digital-all-stars/* (accessed 08.04.2020).

22. HAVAIC is a Cape Town based investment company that invests in early-stage, high-growth technology businesses, offering access to local investments with global prospects (*havaic.com*, accessed 08.04.2020).

23. The first official press release on the matter *ventureburn.com/2020/04/sas-custostech-lays-off-staff-after-vc-sues-startup-for-4-5m/* (accessed 08.04.2020).

that the agreement was negotiated but never signed.

As a consequence of the litigation, CUSTOS has been forced to lay off most its staff.<sup>24</sup>

A combination of amazing technology, successful business, strong valid IP rights, funding in place, right blend of skillful people, big contracts...what could possibly go wrong?

This is the classic story of an investor versus inexperienced management of the start-up. Accordingly, appropriate governance and sound legal advice from experts is essential for any start-up, especially in the early stages. Lawyers, accountants and tax advisors are expensive, but they are necessary. Of course, costs for advice and support need to be managed properly, but start-ups have to be very careful about activities and conduct that potentially expose the start-up to legal liability that could easily have been avoided by seeking professional advice early enough.

Was that the end of CUSTOS? Hopefully not. Trial has not yet started, and the matter may still be settled. CUSTOS has all the ingredients to be able to regroup. The technology is in high demand; in just the short time of operation, they have safeguarded films from piracy and have helped successfully protect approximately 600 film titles and over one million copies.

## AxioVR

Virtual Reality (VR) is the computer-generated representation of a three-dimensional image or environment, usually in combination with hardware, such as a headset, that gives the user a fully immersive “real” experience.<sup>25</sup>

What makes VR powerful is that users can be fully immersed in a paradigm and experience that closely resembles being exposed to a similar real-world scenario. Research has shown that VR increases users’ retention of information and also has a larger impact on learning than using a two-dimensional media source.<sup>26</sup>

VR is a key technology of the 21st century, attracting substantial interest from a wide range of disciplines that will see tremendous growth.<sup>27</sup> It is opportune that this is taking place at the same time as mass acceptance of 5G and the expectation of lower broad-band costs. The reason for this exponential growth is recognition of the value of VR’s application fields, such as aerospace and defense, commerce, industry and medicine. By 2025, the dominant part of this market will likely be the software segment. It’s a bit like music and streaming. Hardware costs will go down and the possibilities for software will become endless.

VR can place any world within your reach; a world with no boundaries, where anything can be brought to life. It

is applied in the gaming, film and education industries with great success. This is where AxioVR makes a difference. AxioVR is a university spin-out company from Stellenbosch University that was established in 2019.<sup>28</sup> AxioVR focuses on designing unique, tailor-made optimal paradigms for various industries. Their slogan is “We can really change the world, your world! One virtual experience at a time.”<sup>29</sup>

As one of the founders is a medical doctor and clinical researcher based at the Department of Psychiatry, the business aim, initially, was to assist patients with mental illness such as schizophrenia. The treatment was to take place through an experience true to real life, but yet safe to step out of the treatment experience at any time. At the heart of AxioVR is the dream of “science meeting art.”

As with most start-ups, funding was initially a challenge. Attracting funding requires feasible technology, a brand, and a proven product that interests and attracts investors.

Being a new business, brand building was essential. Initial projects aimed at assisting clients with brand experience advertising in an immersive VR experience. Clients included Heineken,<sup>30</sup> which designed a tour through a typical Heineken brewery, and Stimorol,<sup>31</sup> expressing a taste experience.

The branding experiences developed for commercial clients helped AxioVR better understand the requirements of clients with prior VR experience. It also assisted them in implementing the logic of the scenes that drive the experience. This was accomplished by incorporating lessons learned in eliciting emotions in a broad audience into a scientific product solution, which allowed for the study of fear and the treatment of anxiety disorders, and helped refine the experience and ease of use for client patients.

AxioVR’s latest venture is to address a need in the research and education sector. 3D VR teaching allows visualization of concepts, which makes it easier to understand. While using VR as a training or research tool, another key metric is biofeedback and data generated from user experiences. With AxioVR’s scientific approach, customers can get unbiased feedback on the user experience, including data records generated during the VR session. The next-generation product is interactive learning, training and marketing platforms that are scalable and applicable to real world problems.

As hardware sales increase, high-end content development is not limited to the initial projects for which it was developed. AxioVR was born out of the need to fill the content gap in the market. With success in various projects and a circular model of reusing content, AxioVR has increased mar-

24. HAVAÍC sued the startup for US\$4.45-million.

25. [merriam-webster.com/dictionary/virtual](https://www.merriam-webster.com/dictionary/virtual) percent20reality (accessed 08.04.2020).

26. [link.springer.com/article/10.1007/s11042-019-08348-9](https://link.springer.com/article/10.1007/s11042-019-08348-9) (accessed 08.04.2020).

27. [tractica.omdia.com](https://tractica.omdia.com) (accessed 08.04.2020).

28. [www.axiovr.co.za](https://www.axiovr.co.za) (accessed 08.04.2020).

29. [www.axiovr.co.za](https://www.axiovr.co.za) (accessed 08.04.2020).

30. Beer brand.

31. [facebook.com/StimorolSA/videos/378945845979705/](https://facebook.com/StimorolSA/videos/378945845979705/) (accessed 08.04.2020).

gins and grown revenue organically. They offer a unique VR combination between business, science and art.

The AxioVR team is an interesting combination: a businessman with experience in the selling of cutting-edge scientific and medical equipment, a researcher in the rapidly growing field of neuropsychiatry, and a 3D designer with an artistic eye and unwavering pursuit of graphic perfection.

The various challenges and lessons learned were similar to those of most early start-ups' experience: overcoming a lack of funding and maintaining sufficient experienced staff to facilitate high-growth.

AxioVR realized that investors want a polished product that is scientifically sophisticated, but user-friendly, elegant and artistic at the same time.

Their response to this was the advancement of their business strategy to better focus on strengths and minimize weaknesses. The products of AxioVR are mostly copyright works. Sustainability of the business entails the appointment of specialized consultants, rather than permanent staff. This demands good contract management, confidentiality and data privacy undertakings (as many of the clients are patients), and copyright assignment of the various works required as deliverables in each stage.

The AxioVR IP strategy is to protect source code as trade secrets and ensure that the business retains the IP ownership in the deliverables. The client owns the experience, not the IP. This strategy allows AxioVR to reuse the software that created a specific paradigm in one project for other clients, including the ability to build the paradigms into the flagship product AxioAcademy.

A quite important asset for AxioVR is the ability to leverage its networks in academia. Understanding the teaching and research-based environment, understanding the customer's needs during numerous consultations, and producing pilot VR software are all critical aspects of this. AxioVR remains flexible to customer needs, but also remains brand-aware and maintains core company values: to develop a product that not only adheres to strict scientific principles, but also meets modern production standards.

The refined scientific products used in the study of fear and the treatment of anxiety of patients resulted in the flagship product, "AxioAcademy." AxioAcademy is a new VR software platform in the development phase that enables the presentation of complex study material to undergraduate students in an immersive environment. This includes the study of neurophysiology, anatomy and clinical training. AxioAcademy will adhere to both the strict academic requirements of detail and precision, while also delivering an immersive and polished experience.

The ability to adapt strategy to remain relevant and competitive is commendable.

A fully developed AxioAcademy will allow students to experience education in 3D. For example, medical stu-

dents will be able to physically interact with the red blood cells in the body. They will see exactly how cancer cells divide relentlessly, thereby forming tumors. Students will be able to operate in a virtual operating theater to learn skills and test their abilities under realistic conditions, all while in a controlled environment.

An inspirational future and a start-up with much potential!

## Conclusion

There are many lessons learned from start-up failures and successes. CBInsights shared insights from many start-ups over a broad range of industries.<sup>32</sup> There are many that fail, but there are also many that succeed and make a difference by solving relevant problems.

There is no "one-size-fits-all" strategy. You may fail, and chances are that you will, but what matters is that you get up and try again.

Experiences and lessons learned from other start-ups should be distilled to some key aspects from which other start-ups can learn or get inspiration.

Very informative sites include Failury,<sup>33</sup> Ventureburn<sup>34</sup> and Hackernoon,<sup>35</sup> all of which share stories of many different start-ups, the lessons learned, and how to regroup and try again. One post-mortem analysis that is highly inspiring is that of MozSEO.<sup>36</sup> It highlights the impact of scaling too quickly,<sup>37</sup> the risk of accepting venture capital funding, and the increased pressure that often comes with it. Perhaps more importantly, it points to the value of recognizing when matters have gone too far, necessitating a regrouping and re-strategizing while there is still cash, and ultimately scaling back significantly to ensure survival.

Choose founding members wisely both in number and quality. People are the most crucial and least predictable element of any business. The right combination of skills, experience, networks, and temperament among the founding members can vastly increase the odds of success.

Ensure your agreements are watertight with proper indemnity provisions and risk management for breaching clauses related to breakaway founding members or mismatched angel investors. Split-ups happen all the time, so be prepared for that as well. Do not work on a handshake; instead have an "antenuptial contract" for a potential

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32. [cbinsights.com/research/startup-failure-post-mortem/#2020update1](https://www.cbinsights.com/research/startup-failure-post-mortem/#2020update1) (accessed 08.04.2020).

33. [failory.com/blog/startup-post-mortem](https://failory.com/blog/startup-post-mortem) (accessed 08.04.2020).

34. [ventureburn.com/](https://ventureburn.com/) (accessed 08.04.2020).

35. [hackernoon.com/](https://hackernoon.com/) (accessed 08.04.2020).

36. [sparktoro.com/blog/moz-returns-to-seo/](https://sparktoro.com/blog/moz-returns-to-seo/) (accessed 08.04.2020).

37. Eric G. Flamholtz, Yvonne Randle, "Growing Pains: Transitioning from an Entrepreneurship to a Professionally Managed Firm," 4th Edition. *Jossey-Bass* (April 20, 2007).

breakup. This can be crucial business protection. Consider legal risk mitigation provisions in your agreements for the unlikely event of an investor instituting litigation.

Find mentors to coach the team and participate in proven accelerator programs if accessible. Choose investors that participate, not only in seed funding phases, but also in additional funding rounds. Manage funds properly, meaning keep your burn rate under control; it is necessary to show investors value for their money.

Have an adaptable, agile business strategy supported by a corresponding IP strategy. Have a wise financial strategy. Consider overheads and the value of money, don't employ too many people too soon. Failure to recruit, motivate, and retain the right staff can spell doom. Have a proper marketing plan, accept that there may be substitutes, and know who your competitors are and how to outsmart them.

Always safeguard your reputation, not just by building a brand for your business that will also attract investors,

but also with regards to governance and compliance with legal and regulatory obligations. This will protect you from unnecessary and costly litigation.

Ensure that your business has a risk management plan and strategy. This entails understanding what the risks are, quantifying the impact and qualifying the management thereof in order to minimize the consequences of risk. Consider risk management strategies for cyber-crime, reputational damage and potential litigation, but also economic crisis that can lead to loss of business or even bankruptcy. A well designed, thought-out active and agile risk management strategy anticipates problems that have yet to arise, which clears the path for growth and long-term business success.

A final word of caution: when concrete expert advice is advisable, seek it! Don't do it yourself! ■

Available at Social Science Research Network (SSRN): <https://ssrn.com/abstract=3583021>.