MARKET DEVELOPMENT

MSc General Management and Analytics

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Supervisor: Stefan Schwarzkopf

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Q1

The Core Value Proposition is formulated as:

"We believe that by using CyPhy's tethered drone systems, professional customers like, Defense and public safety together with security and governments can achieve value through persistent and real time aerial views in logistically complex and high-risk environments. CyPhy's drones creates the conditions secure communication and improvements in decision-making while reducing uncertainty in critical circumstances.

The drone system overcomes the problem of restricted endurance and messy conditions. The PARC can by its tethered technology allows drones to stay in the skies several hours while enabling secure and reliable communication in high-stake operations without risking human lives.

The drone system is built as a hexacopter ensuring stable views and attached to a strengthened microfilament tether designed specifically for professional use. Through providing this type of drone CyPhy supports and helps customers in avoiding risks related to dangerous situations such as blind entries. The solution supports more safe and faster actions in large public events, emergencies and for security operations.

This is not just a drone - CyPhy provides a drone for professional use cases with a critical capability: delivering persistent real-time aerial awareness, enhancing secure and reliable communication".

Q2

To explain the positioning strategy of CyPhy the STP framework will be used, as it helps identify CyPhy's positioning strategy.

Segmentation of customers allows CyPhy to divide the market's customers into different groups with similar needs and behaviors. CyPhy operated on the market for drones, that were divided into different customer groups, segmented on different variables. It is assumed, that segmentation variables such as psychographics, behavioral, and demographical were dominant in the segmentation. For the market at least two segments had been identified:

(1) ***Professional deployment***: customers within the industry of defence and public safety, and security along with governments.

(2) ***Hobby use***: the typical user of drones for hobby use.

Target customers of CyPhy were identified as customers within the professional deployment, as CyPhy's drone system, PARC, were developed with strong focus on endurance and secure communication for high-stake uses. Characteristics of the target customers included they often were slow and lumpy buyers and purchases often happened cautiously. The target customers could be identified as economic buyers with infrequent sales.

The positioning of CyPhy centered around the delivery of reliable, secure and persistent aerial view awareness for high-stake use. The drone technology led to new innovative products, compared to competitors' drones. The complexity in technology resulted in a differentiated positioning strategy that focused on a smaller segment. CyPhy also positioned itself as premium due to production of high-quality drones with prices higher than competitors. The initially pursued positioning strategy were based on a premium differentiated strategy to target a niche segment, and value were created through a points-of-difference value proposition, that were developed through intensive innovation.

To evaluate CyPhy's positioning strategy will the S.A.V.E framework be used, which is a reframing of the traditional marketing mix but incorporates an entrepreneurial touch.

Solution: CyPhy's positioning was not only the drone but included the capabilities of PARC. CyPhy tried to meet customers' needs by offering a product with features built upon endurance and persistent real-time visibility, enabling reliable arial views and secure communication. This solution was based on a clear fit between problem and solution, along with strong product differentiation, which was seen as valuable. However, since CyPhy focused on extremely specialized hardware the segment also became significantly narrow.

Access: CyPhy's customers consisted of *economic buyers* such as defence, public safety, and security along with governments. In the *technology adoption life cycle* this customer group could be identified as the *late majority,* meaning they were more skeptical and risk averse when introduced to new and innovative products. This could have indicated that they relied on strong relations, and valued CyPhy's specialized products made for professional use. However, the buying process was characterized as slow while purchases were considered infrequent which were constraining compared to competitors, which were assumed to have accessible products.

Value: CyPhy positioned itself as being premium and differentiated and competed, compared to competitors, on value rather than price. CyPhy tried to increase customer value by

developing products that were innovative while solving customers' needs. The increase in value could be valuable, however only few customers, due to a narrow target customer group, were satisfied as prices were higher than competitors.

Education: Since CyPhy's products were made up of radical innovation education were crucial for the market. CyPhy's technology had different purposes than the traditional drones, used within the hobby field. Additionally, is it assumed that the adoption time of accepting CyPhy's products, as a customer, was longer compared to traditional drones. As the target group were identified as being *late majority economic buyers* it made it difficult to operate profitable.

Overall, the strategic positioning of CyPhy was characterized as being premium and differentiated with a primary focus of satisfying a narrow segment through intensive innovation. The strategic positioning also led to errors. CyPhy aimed to serve specialized hardware and drone-technology for professional deployment, only satisfying a narrow segment. This type of positioning error is over-positioning, as CyPhy's positioning constrained the growth and profitability potential by using to many resources to satisfy a small market segment.

Q3

The framework of the JUDO strategies will be used for evaluating how CyPhy competed in the market and managed its competitors.

CyPhy operated in a market that was characterized by a few larger and dominating competitors such as DIJ. DIJ was a competitor that managed a bigger market share than CyPhy, as they served a bigger customer group in market, as they focused on the hobby-user segment. CyPhy was considered a smaller player within the drone market.

CyPhy incorporated, to some extent, some of the JUDO strategies mainly by using some of movement techniques. The *define the competitive space* technique was the primary strategy used by CyPhy. *Define the competitive space* is defined as a strategy where a smaller player competes in areas, where bigger players are unmotivated. CyPhy chose to serve a niche market and focused on redefining the competitive landscape; by reconceptualizing the use of drones in a professional use instead of hobby use, it competed on dimensions where competitors were weak or unmotivated. This led to, CyPhy managing to differentiate itself by offering drones that delivered persistence and secure communication and higher quality, while competitors created lower-price drones for hobby-purposes. CyPhy's differentiated positioning strategy

could also be an argument for the use of the *puppy dog ploy* strategy. CyPhy also managed to avoid head-to-head battles with competitors. CyPhy served other customer segments than competitors, which led to them not being direct competitors. Bigger players in the market did not have to worry about CyPhy to the same degree, as they should with direct competitors.

However, the way CyPhy used the JUDO strategies did not appear to have been done intentionally, as it later resulted in insufficient performance compared to a market where competitors were profitable. Additionally, was the product-market fit too narrow containing slow sales cycles, economic buyers with infrequent sales combined with a need for intensive capital increases to survive. If CyPhy had used JUDO strategies, more intentionally, the outcome might have changed from being unprofitable to profitable. In the following section different JUDO strategies will be considered.

If the JUDO strategies were used more purposefully, it could have led to a coherent strategy, by incorporating both *balance* and *leverage* techniques. This would not only have fostered better competitive conditions but could additionally have created a better product-to-market fit for CyPhy.

The *balance* technique *Grip the Opponent* could have been applied by CyPhy. CyPhy could have shaped strong partnerships with established partners and competitors, in the market, by combined assets and capabilities. *Grip the Opponent* strategy could have resulted in better scalability and thus enabling access to other customer segments, which could have prevented a too narrow customer segment. The application of *Grip the Opponent* could have enabled CyPhy to benefit from its rivals while limiting the rivals' room for new actions.

On the other hand, it could have been valuable for CyPhy if they had incorporated a *leverage technique* such as *Leveraging Your Opponent's Asset.* CyPhy experienced problems within scalability due to infrequent sales, slow sales cycles combined with specialized hardware which resulted in disadvantages structurally on the long run. CyPhy's competitors had strong capabilities within scalability, mass production and standard hardware, that were characterized by rigid investments. CyPhy could have exploited this, if they had managed to leverage rivals' capabilities within mass production, and standardized platforms by making more modular offerings to achieve long term leverage and scalability. This would have been ideal for CyPhy, as CyPhy did leverage its opponent's asset on the short run.

The use of JUDO strategies does not come without concerns, as these strategies also comes with weaknesses. The JUDO strategies often overlook competitors, which can result in difficulties when contributing to advantages on the long run. In the case of CyPhy this could have been potentially dangerous, as they already struggled strategically on the long run. Incorporating the Product-Market fit can also be essential to touch upon while discussing the JUDO strategies, as it can help determine future strategies.

The issue of the product-market-fit for CyPhy did not exists within the problem or solution space, but rather in the link and alignment between the two. The market for professional deployment of drones did not offer enough scale for CyPhy to monetize from. CyPhy should have thought about the problem and solution space once they figured that they were unprofitable, to investigate the opportunity for underserved needs or target customers, as the fit and link between the two failed.

Q4

The revenue model is a part of a company's business model and helps define how companies make profits. The customer value proposition is also important, as that is what determines how a company captures value and generate revenue. Pricing strategies, revenue-, and cost drivers will be incorporated when analyzing the revenue models.

Before pivoting*:* The revenue model applied by CyPhy was the *unit sales revenue model* characterized by revenue being earned once a product is sold. Value is captured when revenue is derived by the number of units sold. For CyPhy unit sales refers to tangible goods.

Revenue key drivers: Customers were defined as a small group, as CyPhy offered niche products, that led to a constraint customer base. Customers of CyPhy were defined as defence and public safety along with security and governments whose budgets were often highly constrained. The frequency of buying was rare and tended to be irregular for CyPhy's customers. The customer group were characterized as *economic buyers and late majority,* and they often bought cautiously and were risk adverse. The selling process was assumed to be long as the target customers, relied on if key figures in the administrations, were willing to go through a process of endless committees. As earlier defined, CyPhy had positioned itself with its premium, differentiated strategy serving a niche segment. This had led higher prices, compared to competitors. Raising the prices, even further, could potentially have decreased the customer base, as the customers were budgetly constrained and risk averse.

Cost drivers: A consequence of the specialized hardware and lack of scalability resulted in high cost of goods sold. Operating expenses was also a key factor within cost drivers for CyPhy, that were also considered as high due to high fixed costs, R&D costs along with the need for continuous capital increases.

The pricing strategy: Before pivoting the pricing strategy could be described as the *premium pricing*. CyPhy had focused on creating products with high functionality and quality compared to its competitors' offerings. The products were also priced higher due to the extra features such as securing reliable communication.

After pivoting: The reframing from CyPhy to Aria Insights led to a shift in business model. CyPhy focused mainly on unit sales of PARC, while Aria Insights tried to sell a full-service solution, selling both the PARC and data and analytics. This led to a change in revenue models from *unit sales revenue model* to the *data revenue model.* The value capture also shifted from units sold towards a focus on data processing and analytics, that affected how value was generated for customers.

Revenue drivers: Customers were still defined as professional buyers, as the full-service solution was sold as part of the PARC drone system, and the aim was to capture more value than the PARC already did. The frequency depended on the use of data rather than units sold. The frequency of use also depended on if different events happened, that led to customers engaging with data and with a need for analytics. The selling process was still categorized as long, as Aria Insights' customers still were depended on key figures in the administrations, and their willingness to complete the endless processes of committees. The prices were also considered to still be relatively high - Aria Insights added extra service to its products, that could have led to an increase in prices. The data revenue model was driven by the volume of customers and frequency, which could have led to an increase in the customer-value proposition, as more services were assumed to be offered.

Cost drivers: The change in business model also changed hos costs were affected, as the cost of data processing did not result in as many high costs affecting the COGS, but increased the scalable and variable costs. Instead, were the operating expenses assumed to have increased due R&D costs, sales costs and other costs related to the reframing.

Pricing strategy: The pricing strategy changed toward psychological pricing by using bundle pricing. The PARC and the data processing and analytics became complementary products,

and it is assumed, that it would be cheaper for customers if they bought both products (full-solution) than if they bought it individually - which were meant to increase the customer value generated.

Possible revenue models: Aria Insights could have used *the subscription revenue model*. The model combines units sold with charging customers for continuous use of data processing and analytics.

The value captured could have happened through those services, that Aria Insights offered, which could have led to increased customer lifetime value and created predictable profits.

Revenue drivers: The customer base would remain the same, but frequency in sales would be assumed to have expanded, as the subscription would have led to more often and predictable sales. The selling process would remain long with slow sales cycles, but the incorporation of subscription would have led sales more often. Prices would still have been relatively high compared to competitors, but the experienced value would have generated more value for customers.

Cost drivers: Cost of goods sold would have remained variable and involving scalability that could have led increased sales volume without a proportional increase in COGS. Operating expenses would be assumed to increase due to R&D cost, and cost related to sales and services capabilities.

Pricing strategy: The bundle pricing would still have been ideal to use, as the products were defined as complementary products. It would have been cheaper for customers if they were willing to buy the full-service solution instead of buying it individually.

The shift towards *the subscription revenue model* could have helped in creating more predictable sales.

Q5

Narratives and rhetoric frameworks will be incorporated in the analysis of the video pitch.

The video pitch is characterized as a *reward-based crowdfunding pitch*, that builds upon *storytelling* using *emotional engagement* trying to drive sales rather than real investor commitment. Throughout the pitch an element of pathos is used to enhance feelings such as empowerment, creativeness, and playfulness ensuring the LVL 1 drone is for everyone. Ethos

is used when they introduce the founder of CyPhy, as they visualize her knowledge and passion for robots. She has a wish about drones should be available for everyone - not only the professionals. Examining the narrative in the pitch, *the quest* narrative aligns perfectly, as the video tries to position the user of LVL 1, as being on a journey and on that journey different archetypes such as *creator* and *explorer* can be triggered.

Kickstarter

The platform "Kickstarter" is the largest platform within reward-based crowdfunding. Reward-based crowdfunding is a concept that provides donations but with rewards as return.

Advantages: Kickstarter makes it easy for people to register and has worldwide audience. This can be beneficial for businesses as CyPhy, when they aim to attract other customer segments that the target segments. Kickstarter can also be an important learning tool for businesses like CyPhy, as Kickstarter enables step 6 in the *lean product process*. LVL 1, to some extent, could have been categorized as the *minimum viable product* that CyPhy launched to get feedback from backers to develop better prototypes. When using Kickstarter as a platform for testing, getting feedback on UX and customer-perceived-value it could have enabled CyPhy to work within the framework of the *Build-Measure-Learn* process. This could have had CyPhy reconsider its product-market fit and evaluating its problem and solution space. Kickstarter can be used for short term financing without having to dilute equity and it create global visibility along with enhancing interest within early adopters.

Disadvantages: When using reward-based crowdfunding, as Kickstarter, companies like CyPhy must be strict in choosing the correct funding target. If they fail to reach the targets no funds will be raised. As reward-based crowdfunding is based on rewarding backers, it can be difficult to raise long term financing, which would have been essential for a company like CyPhy, as they had complex technology that also involved complex and continuous innovation leading to high costs.

NABC framework

The NABC framework helps entrepreneurs to ensure they emphasize value rather than features and is a great tool for structuring pitches. The NABC structure consist of four parts: need, approach, benefits and competition. The four parts will be used in comparison of the video pitch.

Need: The video pitch demonstrates the need for accessible and intuitive use of drones. It frames "today's" use of drones as being complex - something only professionals can manage. This has resulted in a broad framing in the underlying user issue, as it is stated as something fun and not a critical need or problem. The video, as previously mentioned, builds upon a strong use of pathos giving the video an underlying feeling of playfulness and creativity which is not supported by empirical data.

Approach: Visuals help express the approach in the pitch, as the video demonstrates how the LVL 1 drone differentiates from competitors. An example is the visuals showing how the six rotors prevent the drone from tilting compared to the competitor's drone with four rotos that tilts. Other features such as the drone's high video quality and geofence technology shown. It should be highlighted, that the technological explanation emphasizes lots about LVL 1's features rather than keeping a clear focus on the logic of the problem and solution.

Benefits: The video pitch illustrates several examples of elements, that could be beneficial for future users of the LVL 1 drone. The drone is described as easy to manage, great stability (due to the 6 rotors), and easy for beginners. However, the pitch also fails in explaining advantages and benefits, in a more measurable way, that serves as concrete arguments for advantages for the users. Due to the lack of concrete and measurable benefits it reduces the CVP for customers.

Competition: The competition element is not clearly and directly addressed in the pitch, and only shortly shown in the comparison of the rotors. The pitch does not contain any statements, that indicate why the LVL 1 drone is better than competitors - only few visuals.

Overall, the pitch addresses approach elements from the NABC framework at a higher level, but the expressions of need, benefits and competition is not clearly stated. The imbalance in the NABC framework reflects a pitch driven more towards a story telling pitch instead of an investor pitch. This also means, that the pitch failed to satisfy the framework of NABC but delivered a great story telling-based pitch.

Drawbacks

Video pitches used for crowdfunding rely heavily on different components such as having a hook in the beginning, a use of emotional storytelling, clear product demos, call-to-action and making backers feel like they are a part of the development. The LVL 1 drone video pitch, to some degree, established some of these elements. The video tries to hook backers, in the early stages of the video, by showing a child using the LVL 1 drone in action. The pitch also tries to

integrate the call-to-action element, as it ends with a closing that emphasizes an implicit call-to-action statement implying the importance of backers' financial support. However, the call-to-action could have been more explicit stated in the video combined with a statement highlighting a strong why of the existence of LVL 1. The video does not highlight a critical need for the product, as the attention is directed towards fun and creative elements. Additionally, the features of the LVL 1 drone are not clearly differentiated from competitors, and the features does not translate into a competitive advantage. Overall, has this led to CyPhy failing in creating a clear differentiation from the market's existing hobby drones.