Validation Report

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1. Introduction

To validate the product in the current market we conducted research by analyzing literature and approaching stakeholders. This report displays the validity of our product idea and discusses its market fit according to our estimations.

2. Literature Review

Application Management tools automate the process of surfacing relationships among applications and infrastructure elements. This makes it easier to detect and diagnose performance and availability issues. APM tools address the issues recent research discovered: That there is a lack of tools needed to support 35% of IT professional's application environments. Furthermore over 40% of application outages are reported by users versus management tools [1]. Business success is directly influenced by the performance of the enterprise application systems that support it.

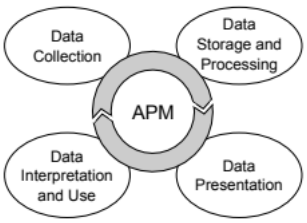

FIGURE 1: 4 ACTIVITIES OF APM [2]

Out of Heger et al.'s [2] four activities of APM our product will focus on *Data Interpretation and Use.* The mentioned phase has three scenarios: *1 Problem detection and alerting*, *2 Problem diagnosis and root cause isolation*, and *3 system refactoring and adaption*. By automating repetitive tasks, we aim to innovate the scenario 3 with our product.

3. Current Market

As detailed in the marketing report the current market of APM software is predominantly led by five companies: Amazon, Datadog, Dynatrace, New Relic and Splunk. However, except for Amazon all companies' products only enable monitoring and prediction. Amazon enables their customers to automatically scale the servers. However, customers must use AWS as data storage to be able to make use of that technology. Therefore, we aim to validate our product with stakeholders whose data is not stored on AWS.

4. Customer expression of interest

Because there are no products like ours on the market it is crucial to validate the product with potential customers. Therefore, we sought out to find a company that expresses their interest in buying our final product. SENTIA is a Managed Service Provider (MSP) with over 15 years of experience in APM. They have expressed their interest in adopting our MVP to solve their disk space issues. Servicing other companies, they manage 15.000 servers and experience errors every 10 minutes. They reported that the costs for a manual fix reach up to 50 € per issue. Sentia uses state-of-the-art APM Monitoring software that helps them identify issues precisely. However, solving this issue is something that the products on the current market are not capable of. Hence, they expressed the interest in a potential purchasing of our product since it would result for them a great saving.

5. Other stakeholders

With Sentia expressing their interest we additionally sought out insights from experts, and potential users. Therefore, we approached two university professors from Politecnico di Milano (from the department of "Electronics, Information, and Bioengineering") and a DevOps engineer working at Impect Gmbh. Seeking their opinions, we asked them questions about our product, the problem it will solve, and their estimations of future sales and pricing.

FIGURE 2: DOMAINS OF COMPANIES OUR RESPONDENTS WORKED IN.

FIGURE 3: APM-SOFTWARE OUR RESPONDENTS USED BEFORE.

The experts and the DevOps engineer confirmed a need for our product. They all strongly agreed with the statement that they would rather spend their working time on other tasks than time-consuming disk space issues. This is a quote from the DevOps engineer:

"I choose strongly agree, because this is a time consuming reaction to something that shouldn't happen. Being reactive means the circumstances are choosing when you have to spend time in such a task. That's a huge problem."

Our respondents estimated that a solution would be adopted by a large part of the market (an average of 70% of the market could adopt our solution, "if well implemented") and address a need in the companies they previously worked for (Figure 2). Furthermore, we asked them for sales estimations based on their experience. Their average estimation for the first month after a product launch was selling 8 units. In the second month, they predicted 33 units to be sold. Overall, the data about our respondent's domain is in line with our market research and which makes their estimations valuable to consider in the next steps.

6. Pricing scheme appropriateness

The appropriateness of the pricing strategy will be validated in 2 steps: firstly, we will look at the pricing scheme identified in our competitors, secondly, we will validate our prices with the answers from our respondents.

| MARKET PRICING SCHEME ANALYSIS

The objective of this first analysis is based on validation through experience. The fundamental assumption behind this is that the market evolves to make the strongest companies survive and let the others die, as it happens in nature. Based on that, it is reasonable to think that the actual companies in the market (our competitors) could be considered "the strongest" in the field of server management. Hence, also the effectiveness of their pricing models should have been tested and validated, in years of gathered best-practices.

When we look at the identified competitors (Amazon, Splunk, Dynatrace, Datadog, and New Relic) 4 out of 5 are applying a monthly subscription-based pricing scheme, with different plans at different costs and different features included within each plan. The only competitor that is applying a different pricing scheme is Splunk, which is giving their product that is competing with us, for free.

Thus, we can conclude that our pricing scheme is perfectly aligned to the market. Although we are not making a revolution with this scheme, we can exploit the advantage of the simplicity and the familiarity that customers already have with it. Monthly subscriptions are for businesses easily predictable expenses, making their budgeting processes efficient, saving them extra costs. Moreover, the familiarity that they already have with this pricing model could save us some time and effort when it comes to pitching our idea to possible investors.

| INTERVIEWS PRICE VALIDATION

In this paragraph we describe the validation of the prices we chose initially by using the respondent's insights. Since we planned to position ourselves under the average price of our competitors (pricing penetration strategy), we wanted to understand if our interviewees thought the same. Therefore, we gave them complete freedom to answer the question *"As a company how much would you pay for our product per month?"* without telling them our calculated prices in advance.

The results are presented in the following table:

Minimum	Maximum	Mean	Std. Deviation	Variance	# answers
50,00	90,00	75,00	17,80	316,67	3

The result is somewhat interesting: our primary price positioning (since our strategy is to focus on selling middle plans) is 65 €/month, hence, 10 €/month below the mean of what the interviewees would pay monthly. Thus, we cost 13,33% less than what they want to pay on average for our product, meaning that our actual prices are pretty aligned to the penetration pricing strategy we want to apply.

| 7. Conclusion

By interviewing two experts, one possible user of the platform and with the expression of interest from a possible customer, we are confident that our product will receive positive feedback from the market. However, all the respondents expressed in some way that the final solution will work only if well implemented: an approximation of implementation would probably lead to a failed project, since a product that aims to solve disk space issues but gives wrong solutions, is not that useful.

8. References

[1] Sturm, Rick, et al. *Application Performance Management (APM) in the Digital Enterprise : Managing Applications for Cloud, Mobile, IoT and EBusiness*, Elsevier Science & Technology, 2017. *ProQuest Ebook Central*, https://ebookcentral.proquest.com/lib/uunl/detail.action?docID=4804454.

[2] Heger, Christoph, van Hoorn, Andre, Mann, Mario und Okanovic, Dusan (2017) *Application Performance Management: State of the Art and Challenges for the Future* [Paper] In: 8th ACM/SPEC International Conference on Performance Engineering (ICPE '17), April 22-27, 2017, L'Aquila, Italy.