

# Potential for the set-up of VitalTissue; a vital human tissue supply chain in The Netherlands

Taking into account the perspectives of the customers



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## Summary

**Background** Many researchers in preclinical research indicated a need for vital human tissue to replace animal testing and enlarge translatability of preclinical study results. However, human tissue is primarily available as frozen or preserved material from biobanks in the Netherlands. There is no existing national infrastructure yet providing this vital human tissue to scientists in the Netherlands. Only a small group of researchers with a personal connection to the surgeon/pathologist do have limited access to the material. VitalTissue initiative aims to facilitate this and aims to improve this process by creating an online platform that to connect suppliers to demanders. For the launch of this new initiative, there are many important factors and difficulties to be taken into account. To test those important factors and overcome the difficulties, a feasibility study should be started before the real set up of VitalTissue to investigate whether this initiative can be set up in a sustainable way.

**Problem statement** The potential of a new initiative needs to be clear for succeeding a feasibility study. To estimate the potential, the perspectives of the future customers are important, since it is known that those perspectives are of high value. Only one earlier study is done to the potential of VitalTissue, but there is no insight yet in the potential for VitalTissue according to the future customers.

**Research question** The research question of this study was: what is the potential for VitalTissue in the Netherlands, taken into account the perspectives of the customers?

**Methodology** A qualitative research design is used with fourteen semi-structured interviews. The study population was recruited by purposive sampling strategy and existed of two different customer segments: academic and non-academic research organisations, and one participant from a branch organisation. The interviews were recorded, transcribed and summarized. To produce the final results the transcripts were analysed with the qualitative analysis software AtlasTI.

**Results** Perspectives about the key activities of VitalTissue were studied: the product, the conditions and the services. The included customer segments were mainly interested in VitalTissue if it can deliver vital human tissue of the intestine, liver, lung, skin and fat with a minimum size between 5-10cm<sup>3</sup>. Preferable was different types of tissue from the same patient. The estimation of the needs of the customers depended on the current research projects. They also gave feedback on the conditions of this product: the quality depends on transportation time and method, legal criteria should be met, ethical conditions need to be considered to include an informed consent for patients according to non-academic researchers, but academic researchers agreed on an information obligation towards the patients. Both the researchers from academic and non-academic research organisations were positive about the network and transport service, but they suggested an account manager service to maintain the relationship network. The majority of the perspectives regarding the value proposition of VitalTissue were positive: an added value is seen for VitalTissue mainly, because of the increase in availability and accessibility of vital human tissue and the new and innovative aspect of the initiative.

**Discussion** The perspectives of the two potential customer segments gained insight in the potential for succeeding in the start-up of VitalTissue, with respect to the key activities and value proposition of VitalTissue. Therefore, this potential of VitalTissue according to these customer segments is estimated to be positive and promising. Since VitalTissue is a new initiative for The Netherlands, no other studies have been found. However, a similar initiative of VitalTissue is noticed in the UK and showed some similar findings concerning the key activities of VitalTissue. Perspectives from the study from the UK showed that there are concerns about the unknown logistics, quality and costs of the tissue in such an initiative. This study determined these aspects beforehand and gained more insight in the detailed perspectives of the customers in The Netherlands. Moreover, the value proposition of VitalTissue is of added value, because several studies showed that insight in the customer's view is of high value and strengthen to the estimation of the potential of a new business. The findings of this study may be somewhat limited; This study included only two possible customer segments with a total of 14 participants, since it is known that the total number of the potential customers is estimated of at least 40 academic and non-academic research organisations, therefore generalization is difficult. In addition, there was no inclusion of the potential suppliers of VitalTissue. This resulted in an incomplete insight, since both the demander and the supplier side have to be taken into account to estimate the potential of a new business such as VitalTissue.

**Conclusion** The perspectives of the two customer segments and the branch organisation contributed to the determination of the key activities: a clear view of the precise product that VitalTissue should offer, the conditions that VitalTissue needs to take into account and the services offered by VitalTissue are confirmed. The majority of the participants stated that VitalTissue would be of high added value for all the researchers in the Netherlands. There is no network of suppliers and users for vital human tissue yet, despite the high need for vital human tissue as an alternative pre-clinical mode and, therefore, the value proposition of VitalTissue is high. Hence, according to the perspectives from researchers from both academic and non-academic research organisations and the participant from the branch organisation, the potential for the set-up of VitalTissue is promising.

**Recommendations** Further research need to be done to gain a complete insight in the potential for VitalTissue by extending the business case described by the Business Model Canvas. A follow-up study should include the possible suppliers of VitalTissue to gain insight in their perspectives about the key activities and value proposition of VitalTissue. In addition, the other building blocks of the Business Model Canvas should be analysed to create a complete overview of VitalTissue as a business. Both these two aspects contribute to the determination of the aspects that need to be taken into account for the set-up of VitalTissue and, in the end, to make a feasibility study possible.