



Applying the Business Model Canvas to the SBIR Grant



Natalia Tunajek, Abigail Patterson, and Dr. Jonathan Adams
 Florida State University College of Communication and Information

Background

The Small Business Innovation Research (SBIR) grant provides small businesses with the opportunity to access federal funding and support for research and development endeavors. The introductory step that businesses must do is submit a three-page grant proposal, and an illustrative tool for SBIR officials named *Quadchart*. The submitted information includes details about the target customer, market opportunity, and value proposition.

The proposal answers a series of essay questions, which can be a daunting task, especially for small businesses. To tackle this challenge, we propose utilizing the Business Model Canvas (BMC), an ontological business information tool designed to document business models.

Introduction

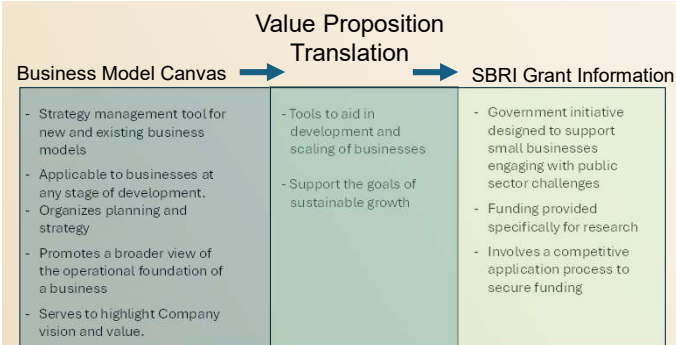
The Value Proposition The Business Model Canvas (BMC) is a simple, yet versatile tool for documenting and visualizing aspects of a business that represent *value*. Comprised of nine distinct categories, the BMC outlines different aspects of the business model: customer segments, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, cost structure, and value propositions.

The SBIR Grant

The BMC's streamlined information gathering methodology seamlessly integrates with the SBIR Quadchart, offering a coherent approach to information organization. Certain elements of the Quadchart align with components of the BMC, illustrating a synergy between these frameworks (Figure 1).

Applying the BMC to SBIR Grant

Apellix seeks funding to develop new capabilities for their fleet of drones. Specifically, the goal is to integrate Artificial Intelligence to automate certain aspects of their operations. The Business Model Canvas streamlined documentation of Apellix's business model for the SBIR grant application process.



SBIR Quadchart – Apellix

Technology Development

Customer Value Proposition: The product can decontaminate and clean while reducing personnel exposure to hazardous materials and heights.

Deep Tech Pioneer 2023
 WEF Global Impact Award Nominee 2022
 NACE Innovation of the Year winner 2021

Company Introduction

Founded: 2014

Mission: To develop elegant transformative solutions that keeps workers safe.

Research Need

Apellix has created semi-autonomous Aerial robotic systems (drones) with precision flight control that have a robotic arm and end effector (hand) that autonomously collect Nondestructive Testing (NDT) data from external surfaces such as ships' hulls. The Apellix systems afford faster, safer, cheaper, and better NDT measurement collection methodology unlocking the potential of artificial Intelligence, Machine Learning, and more.

Opportunity

Need/Problem: Cleaning and decontaminating at heights can be hazardous, and time-consuming and requires ample employee training.
Target Customer: DOD, Industrial and farming applications.
Market Opportunity: Our technology aims to address a critical industry need for safer, more efficient, and cost-effective solutions for cleaning and decontaminating.

Methods

Qualitative information collection

Data was collected from the website and from interviews. The insights gleaned from these activities were integrated into the Business Model Canvas (BMC).

Creating comprehensive customer profiles

The initial step in the BMC process involved creating comprehensive profiles designed to highlight the distinct needs, challenges of customer segments. These profiles serve as a foundational framework for understanding the target audience. Subsequently playing a pivotal role in informing the creation of a compelling value proposition tailored to resonate with the targeted customer segments.

Value Proposition

The value proposition was developed through an analysis of customer needs, discerning how the product uniquely addresses these requirements. By identifying the specific problem and aligning it with customer aspirations, the value proposition was created to effectively communicate the product's value in a succinct manner to resonate with SBIR grant board members.

References and Acknowledgements

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Slide 1

JA1 You mention 3 stages, but I
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Jonathan Adams, 3/4/2024