

# Understanding Makerspaces' Goals and Success

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## Abstract

Makerspaces have been increasingly adapted for schools, libraries, social causes, private companies and many other stratum. Each of them counts with a very unique state of affairs that and specific outcomes. It is common to create makerspaces for specific purposes like entrepreneurship, research, creativity and innovation, or STEAM education to name a few, and find out that results do not flow as expected. To date there are no guidelines or identified metrics to build a makerspace with the right set of assets to achieve the desired goals. The objective of this study is to identify different types of makerspaces as well as the characteristics, goals and conditions required for their successful operation. We established the basic parameters to define a makerspace through a literature review of the terms makerspace, FabLab, and co-creation lab. Then, we interviewed ten makerspace representatives in order to analyze their makerspace environments and criteria of success. With this input, we designed a survey intended to recollect information worldwide from makerspace managers and users in order to identify the relationships between characteristics, operation practices and key metrics that make a successful makerspace.

## Keywords

Makerspace, Maker, Maker Movement, FabLab and Co-creation Lab.

## Biographies

**Laura A. Valadez** is a bachelor student of the Innovation and Development Engineering Honors program at Tec de Monterrey. She introduced herself to the Maker Movement through her major in innovation and minor in prototyping. Her experience in project management and product development have spurred her to work with interdisciplinary teams, a wide range of technologies, various manufacturing processes and different materials. Laura was an intern in FabCafe Monterrey, is part of the startup Blue Phoenix Plastic and she is the co-founder and CEO of Make Maker Mx, a maker community with international presence.

**Azael Capetillo** is a PhD graduate from the University of Leeds, and a full-time professor at Tec de Monterrey. His research work focuses on innovation management, product development and technology-based entrepreneurship and intrapreneurship. He has experience as Technology Innovation Leader in the automotive industry in Mexico and product development engineer in the HVAC industry in the UK. Working on developing new products, incremental design of existing products, disruptive innovation, technology research, development, management, launching new ventures, and discovering new business models. He is the Director of the Innovation GYM at Tec de Monterrey and the National Director of the Innovation and Development Engineering program at Tec de Monterrey.