Promising New Scholarship and Complexity Conference: Presentation
"3D Printing in Public Libraries"

Public libraries are dedicated to providing free and equitable access to written, electronic and audio-visual information. In addition, they provide different learning opportunities for patrons to improve their quality of life, and play a significant role in a community's economic and social development (Abu, Grace, & Carroll, 2011). Therefore, public libraries can have a significant impact on reducing poverty and inequality among different social groups. This can be particularly important in rural and disadvantaged communities where people may not have the infrastructure or the ability to access information.

In recent years, responding to communities' needs for information and resource provision, libraries have been shifting from being repositories of books and information to being proactive service providers (Shrestha & Krolak, 2015). As longtime educational institutions, they are continuously try to deliver all the emerging technologies to those patrons who has no access to them at home (Flaherty & Miller, 2016). Lately, libraries have added 3D printers as part of their collections. 3D printing, an additive manufacturing technique where 3D objects are built from a combination of multiple slices, has been around for a few decades (Vincent F. Scalfani & Josh Sahib, 2013). However, because of the its cost, 3D printers were mostly used by businesses. Over the last years, low-cost 3D printers have become available to small companies, researchers, and even individual consumers (de Jong & Bruijn, 2013). The shift to affordable 3D printers opened new opportunities for research and education, which resulted in a big movement for libraries to acquire and support 3D printers.

Although 3D Printing expanding rapidly, very few scholars have studied how this technology will impact inequality. This project uses real time technology assessment principles to examine 3D printing and how it will impact development. In particular, we are interested in the role that public libraries will play in diffusing 3D printer technology to marginalized and underserved communities.

Despite the addition of 3D printing to public libraries, we predict that the technology will still increase inequality because only libraries in wealthy areas will have 3D printers. In addition, even if a library has a 3D printer the technology, the technology will not be accessible to most of the patrons due to the lack of resources and knowledge on how to use the printer.

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