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Information Sources Survey

Introduction

The maker community is an exceptionally vibrant information community centered around DIY and STEAM. It is a community built on sharing information (skills, tools, techniques, ideas) as well as products (Sheridan et al., 2014). Makers may actively seek inspiration for projects, but they may also have serendipitous encounters that give inspiration (Harlan et al., 2012). Additionally, they actively seek information about skills and tools that are either already to them or that might help with a project they already have in mind (Sheridan et al., 2014). Makers value information coming from other makers, whether in their geographic communities and makerspaces or in online maker communities. They also place a high value on sharing the information they have learned (and the products they have created), which creates a rich culture of exchange and respect among community members.

Research-based source

APA style citation.

Redwood, B., Schöffer, F., & Garret, B. (2017). *The 3D printing handbook: Technologies, design and application.* Amsterdam: 3D Hubs.

Position within the information cycle. As a book, this text is late in the information cycle—a year or more after the "event" of 3D printing technology becoming widely accessible.

The information presented took significant time, processing, and synthesis to produce (Redwood et al., 2017).

Scope and content. The book covers multiple 3D printing technologies, including how they function and what materials they use (Redwood et al., 2017). They are evaluated and compared so that readers can make judgements about which technologies best suit their needs. It also outlines design principles and applications for using each of those technologies.

Credentials and authority of the author, editor, and/or publisher. The authors are industrial designers and co-founders or directors of 3D Hubs, a company that offers manufacturing services including 3D printing and CNC machining (3D Hubs, n.d.). They note that the content includes contributions from industry experts and is otherwise based on their knowledge and experience (Redwood et al., 2017).

Purposes and uses. The book aims to help designers and engineers "master the key aspects of 3D printing" by understanding which printing method is best for a specific application (Redwood et al., 2017). It is a reference toolbox, so the speak, that can be used by any designer to make decisions about their 3D printing projects.

Intended audience. The primary audience is designers and engineers who want to use 3D printing technology to make and innovate. The book encourages readers to use this technology to change the world, make breakthrough products, and make creative ideas a reality (Redwood et al., 2017).

Design. This text is a published industry book that functions as a reference text. The introduction notes that the book is not meant to be read from front to back, but rather as a reference for specific information needs (Redwood et al., 2017). It makes use of summaries,

indexes, and tables to clearly compare different printing technologies, and it is broken into three sections to make reference simple: technologies and materials, design, and applications.

Currency and frequency of update. The book is a standalone work published in 2017. It will likely need to be updated in the next couple of years due to the rate of development of manufacturing technologies.

Biases and gaps. The introduction situates 3D printing technology among other manufacturing technologies, but it does not address those technologies otherwise (Redwood et al., 2017). The book seems to be fairly comprehensive and technical in its descriptions and evaluations of 3D printing.

Value for your information community. 3D printing is one among many technologies used by makers, so this text may not be useful to every person in the maker community. However, as a source for makers specifically seeking information about 3D printing, it presents the information in a practical and actionable way, comparing technologies so readers can make effective design decisions.

Community-based source

APA style citation.

Instructables. (n.d.) Retrieved from http://instructables.com

Position within the information cycle. Each guide posted on Instructables is generally early in the information cycle—the day or week of the "event" of making the project. These guides act as step-by-step blogs and are generally created alongside the actual project that they document.

Scope and content. Instructables includes user-made guides for a variety of DIY projects. Some featured projects include circuitry, 3D printing, woodworking, cosplay, culinary, coding, and textile and fiber arts (Instructables, n.d.). The guides include text explanations, photos, and sometimes videos.

Credentials and authority of the author, editor, and/or publisher. The site itself was created by engineering doctoral students at MIT and is now owned by Autodesk, a major software company for engineering and computer-aided design (Instructables, n.d.). Classes are offered by designers from the Instructables or Autodesk teams, but the main content on the site is user-generated and ranges quite widely in complexity and expertise.

Purposes and uses. Instructables is designed for makers to share their projects with the greater maker community. This also enables makers to learn from each other to try new methods and create their own projects. Its goal is to be a place of inspiration, education, and encouragement for makers of all content and levels of expertise.

Intended audience. Instructables is intended for an audience of designers, artists, tinkerers, and other makers. It does not highlight one type of making over another; rather, all types are represented and share space on the site (Instructables, n.d.).

Design. Instructables is a website and online community that functions as an informal database of DIY maker projects. Its search and browse options support active seeking and active scanning (Savolainen, 2017), while its publish option encourages user-created content.

Currency and frequency of update. Content is updated as users create it (usually daily) since Instructables is a website and online community. When users search, projects are listed by a

combination of relevance, number of views, and number of times it has been favorited, regardless of when it was originally published.

Biases and gaps. There is no enforced standard for user-generated content, so the level of specificity in instructions can vary greatly. Instructables attempts to manage that to some extent through the publishing class, tips, and interface, but ultimately it is up to the users to be clear and thorough in their guide. This may be self-managed, to some extent, by the favorite-ing function (projects that have been favorited more frequently are given preference in searches) as well as the ability to comment, add tips, and ask questions on individual projects.

Value for your information community. Instructables is a popular resource for crafters, tinkerers, and other makers, especially for those who do not otherwise have access to other makers. Sheridan et al. (2014) suggest that makers tend to rely on learner-experts: makers who taught themselves a skill or information and are now responsible for teaching that to other makers. This aligns with Chatman's (1991, as cited in Hartel et al., 2016) findings that some information seekers prefer human sources over textual sources. Instructables takes advantage of the internet and digital media to build a strong sense of community among makers and across geographical boundaries.

Compare, Contrast, & Reflection

The 3D Printing Handbook and Instructables are both useful resources to the maker community, although they provide different types of information. The handbook is a specialized text illustrating and evaluating the function, design, and application of different 3D printing technologies. It is about tools and skills to make any project. On the other hand, Instructables is a project database sharing community-members' projects and explaining how they were made. It is

about inspiration and instructions for very specific projects. Both serve their purpose, and it is reasonable to consider how a maker might use them simultaneously; they might find a 3D printing project on Instructables, then seek specific information about how 3D printers work or what different materials can be printed.

Based on the resources I found, it seems that there is more crowd-sourced and community-generated maker content than academic, research-based content. I found a veritable plethora of community-based sources, but struggled to find anything academic. I visited the computer science and engineering sections of my local library and found most books were technical manuals or ...For Dummies books rather than peer-reviewed or encyclopedic texts. This makes sense considering the culture of sharing among makers (Sheridan et al., 2014). Maker projects tend to be product-oriented, not knowledge-oriented, so it is logical that there are more sources focused on skills, tools, and techniques than on information for the sake of information.

References

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