

Research helps businesses optimize benefits of crowdsourcing

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(Phys.org)—In today's global marketplace, a growing number of organizations are attempting to gain an edge over their competitors through "crowdsourcing"—the use of large groups of individuals to perform tasks commonly performed by employees or designated agents. Lee Erickson, a doctoral degree candidate at Penn State's College of Information Sciences and Technology (IST), is studying how crowdsourcing processes can be optimized so that companies can match the "right crowd to the right job."

"I'm trying to figure out how theory is useful in practice," she said.

Erickson's paper, "Hanging with the right crowd: Matching crowdsourcing need to crowd characteristics," co-written by Irene Petrick, senior lecturer of information sciences and technology, and Eileen Trauth, professor of [information sciences](#) and technology, was the runner-up for the Best Practitioner Paper award at the 2012 American Conference on Information Systems (AMCIS), held recently in Seattle.

Crowdsourcing leverages online technologies to connect organizations with [large groups](#) of people for the purpose of completing a variety of tasks. A popular use of crowdsourcing, according to Erickson and her colleagues, is the completion of [routine tasks](#) such as tagging images, identifying [handwriting](#) and improving search results. Organizations are also turning to the crowd to complete non-routine, complex tasks such as generating advertising, making decisions about anticipated [market trends](#), generating product ideas and solving complex problems.

Erickson, who for 12 years prior to starting her studies at the College of IST was the CEO of Erickson Barnett, a full-service marketing agency, said she had become fascinated with how social media was changing the business landscape by allowing customers input in the development of products.

"[Social media] was actually leveling the playing field between customers and companies, and crowdsourcing is one way companies are leveraging social media for competitive advantage," she said.

While many organizations are attempting to tap into the crowd's productivity and knowledge, Erickson said, there has been little research on the strategic use of the crowd to meet specific organizational needs. Based on a review of literature, interviews with practitioners and exploratory case studies, Erickson, Petrick and Trauth developed a framework that matches organizational needs to key characteristics of the crowd.

Previously, Erickson said, work on the use of crowdsourcing focused on identifying the broad uses of the crowd by organizations. Research had been less clear, however, about which needs necessitate which crowds with which particular skills, experiences and knowledge.

"For companies to extract value from crowdsourcing initiatives," the researchers wrote, "they must match the right crowd to the specific organizational need."

Currently, Erickson said, mostly larger companies are experimenting with crowdsourcing. A number of startups are also leveraging crowdsourcing to create new business models. For example, Threadless, an online community of artists and an e-commerce website based in Chicago, is based entirely on a crowdsourcing model. Threadless designs are created by and chosen by an online community. Each week,

approximately 1,000 designs are submitted online and are put to a public vote. After seven days the staff reviews the top-scoring designs. Based on the average score and community feedback, 10 designs are selected each week, printed on clothing and other products, and sold worldwide through the online store and at their retail store in Chicago.

According to Erickson and her colleagues, organizations are leveraging both external (non-employee) as well as internal (employee) crowds. Crowds may be found within existing online communities of interest, product communities or via an open call to the public. While "lead users"—users with advanced understanding of future customers' needs—tend to contribute innovative ideas, ordinary users—those with little knowledge of materials or manufacturing—play a key role in refining the ideas put forth.

When it comes to the value the crowd brings to the task, Erickson said, organizations are attempting to benefit from both the diversity and the sheer numbers in the crowd. Diversity in knowledge and experience is beneficial when crowds collaborate to come up with a collective decision or solution, often referred to as "collective intelligence," as well as when individuals work independently of each other but inputs are aggregated, often called the "wisdom of the crowd." When large numbers of individuals participate, there is an increase in the likelihood of finding the one right or best solution, something Erickson calls the "wisdom of the one."

While crowdsourcing offers many benefits to organizations, Erickson said, the practice does have some drawbacks and risks. For instance, while diversity in knowledge and experience among crowds can reap benefits for companies, it also creates "noise." In addition, while a diverse crowd is preferred when attempting to increase innovation capabilities, organizations may prefer internal crowds over external ones in order to reduce the risk of information leakage.

Crowdsourcing may be gaining in popularity among organizations, Erickson said, but the practice has not been universally embraced. In particular, there has been "a lot of internal resistance" within traditional, hierarchical companies that may not like the idea of ceding any control to outside forces.

"Once you involve the crowd in what you want to do, you've got to actually listen to them," she said.

Provided by Pennsylvania State University

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