

Information Technology: A Community of Practice

A Workplace Analysis

by

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Introduction

Information Technology (IT) encompasses all aspects of computing technology. IT is concerned with issues relating to supporting technology users and meeting their needs within an organizational and societal context through the selection, creation, application, integration, and administration of computing technologies (Lunt, et. al., 2008). The bodies of knowledge under IT include information management, networking, security, data storage, email and telephony, application development and programming, system administration and support, to name a few.

Today, many organizations, large and small, rely on IT as a critical component in performing organizational objectives and advancing their mission statements. Optimally, organizations should have a unified vision of their IT requirements and develop an information technology infrastructure that will support their objectives and goals. Within each field of IT, there are many complex facets that necessitate their own, specific technical knowledge base in order to function. Additionally, interoperability of one knowledge base can, and oftentimes does require overlap into other IT fields in order to perform. The level of complexity in each field warrants various levels of understanding and mastery of that specific knowledge base from its personnel.

Workplace/context

One area of operation in IT is the support function. Support is a customer-focused approach to delivering information technology and can vary in definition and purpose, from one organization to another. Depending on the size of the

organization and the volume of support requests generated, the size of IT support can range from one individual, to teams of individuals that can grow beyond a hundred, becoming a rich and varied *community of practice* (Lave, Wenger, 1991). Lave and Wenger define communities of practice as groups of people who engage in the pursuit of a shared interest and, through their interactive efforts at learning, evolve and become more knowledgeable and proficient over time. Though models vary across organizations, IT support systems exemplify this definition. In IT, the delivery model of support can range in form, from the open-policy, wherein techs (technical support positions) take requests from calls and informal conversations in the hallway from end users and carry the responsibility of all desktop computer issues in their company, to teams of support who operate out of a centralized mechanism for processing requests, sometimes with divisions of support divided by geography, areas of expertise, or shifts in a day.

I am an Information Technology Consultant specializing in Desktop Support at California State University, Northridge (CSUN). CSUN is a large, 356 acre single-campus university serving over 36,000 students (collegeportraits.org, 2014). CSUN's IT department constitutes a large community of practice, made up of occasional newcomers, many practitioners and a few masters who provide many IT support functions to the campus community including network services, telephony services, ID management, email services, server maintenance, virtual services and desktop support, as well as providing a helpdesk service for students and staff. Each of these services is an organizational unit and its own, smaller community of practice

within IT. As a member of the Desktop Support group, I provide, with the assistance of a team of five fellow practitioners, technical support for staff members across many entities on campus as they relate to a user's desktop computer. The group is headed by a lead technician and there are four technicians that share the workload of processing service requests.

The IT department also utilizes Student Assistant (SA) positions to help facilitate their duties and fulfill their goals, including the areas of helpdesk, desktop support, operations and general administration. Student positions, as related to IT and its functions, can serve as a means of introducing newcomers to the field and the community of practice of IT, as a form of apprenticeship in our tech shop. In apprenticeship, learners see the work, as it involves learning a physical, tangible activity (Collins, Holum, Brown, 1991). In Desktop Support, up to five SA positions assist the group with remedial requests such as a mouse replacements and web browser updates, which practitioners demonstrate to the students, as needed.

Examples of support issues for which IT practitioners are responsible include email, applications, printers, desktop hardware, operating systems, mobile devices, smart-classroom technologies, networking, upgrades and installations, and general maintenance. In addition to our responsibilities of support, we are tasked with researching projects that could benefit IT in providing services. Current projects range from researching a Mobile Device Management system for centralizing the department mobile devices and app licenses, a Desktop Management system for OS X that provides reporting and management functions (i.e. centralized updates, app

deployment, and imaging), and more a robust print server management solution that could replace the existing, unstable system.

My IT community is defined through a spectrum of relationships. There are face-to-face fellow practitioners represented by the other full-time techs like myself in Desktop Support and HelpDesk, techs representing other Colleges, and systems administrators, network analysts, web administrators and database administrators in our other organizational units. Several masters from various IT subspecialties exist throughout the organization, several of whom I seek out on an as-needed basis for their expertise. I also seek the assistance of masters in the virtual realm, through explorations into online forums, blogs and helpcenter communities for various software and hardware providers. The practice is represented by the services we, the practitioners of IT, provide to the campus community. The work of each practitioner in IT has direct meaning to the world as it pertains to information technology and each practitioner in the IT division is in some capacity, driven for the sake of enriching the community of practice of information technology.

Statement of Need

Many participants in the community of practice of IT are introverts in nature. Although many “tech people” are comfortable in social situations, my observations during my more than twenty-five years of involvement in the technology community have left me with the impression that an above-average percentage of participants in the community show traits associated with introverts. This may in part have to do with an affinity for the profession, as studies show technology related job tasks and

processes are suited towards introverts (Lounsbury, et.al.,2007). Newcomers and practitioners who are more reserved may tend to avoid seeking expertise from other practitioners and masters, and may lack full engagement in the greater community of practice, due to a reluctance to reach out. Introverts may be missing out on opportunities for growth, education, and immersion in the wealth of knowledge all around them if they do not seek out relationships with other community members with greater, or simply varied, knowledge.

Throughout my employment here at CSUN, I am fortunate to have, over time, developed good relationships with practitioners and masters of IT in various positions and areas, both inside and outside of Desktop Support. These relationships serve as sources of guidance for problem solving, communities for story sharing, and most importantly, as a means to acquire knowledge that helps me provide the most thorough service possible and advance in my career. I have formed and continue to form relationships with other IT professionals that work in areas other than my own, such as networking, systems management, infrastructure, and telecommunications, to name a few. With these relationships, I am afforded opportunities to discuss ideas for new projects, explore my interests in their respective domains, build a greater knowledge base, make mental connections I would not otherwise make and seek guidance for career building.

It is via these relationships in my workplace that I experience *legitimate peripheral participation (LPP)*, as they provide opportunities to involve myself, on a peripheral level and as a newcomer, with other IT fields in which I hold interest (Lave,

Wenger, 1991). Lave and Wenger describe LPP as the means by which a community of practice is built, as “learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community” (Lave, Wenger, 1991).

Peripherally, I learn other technologies through the guidance of relationships I have with fellow practitioners in different IT fields, increasing my level of clarity on new technologies as well as how they relate to my existing understanding and areas of responsibilities. As a Desktop Support specialist, being exposed to different thinking and problem-solving styles is beneficial and valuable to my knowledge base and skill, and in turn, affords me opportunities to progress deeper into the community of practice.

Exchanging knowledge with other practitioners and masters is instrumental in how I choose to participate in the community of practice of IT.

When practitioners exercise their involvement in the community of practice, the organization benefits from this activity. These relationships build knowledge and value into the community, which serves the organization in providing the best service possible for the campus community. As newcomers slowly transition to roles of greater mastery, the organization loses out on potentially qualified leaders, as masters begin their transition out of the community (Barab, Duffy, 1998). EDUCAUSE, an organization dedicated to the advancement of higher education through the use of information technology, found a dwindling pool of qualified potential IT leadership practitioners, due to lack of interest in the career path (Metros, Yang, 2006). Mentoring is suggested as a solution to develop promising candidates (Metros, Yang, 2006).

Newcomers, some of whom might be reticent, might benefit if they knew there were masters out there who were willing to provide guidance in the community of practice by helping, teaching, and working with them. An informal framework of volunteer mentors might lead newcomers and practitioners who would otherwise be reluctant to reach out to and engage with other practitioners and with masters, to become more active participants in the community of practice, expand their own knowledge base, and perhaps eventually provide the guidance to others.

Proposed Solution

At my place of employment, a structured mentorship program does not exist for IT newcomers to enroll in, and advance their participation in the community of practice of Information Technology. Adding an informal, volunteer mentorship program could serve as an instrument of transparency into deeper levels of learning in the community of practice, for both newcomers and current practitioners. Mentors assist mentees in career development activities by guiding mentees in their search for solutions (MRC, 2010). Mentoring generally involves an experienced practitioner to teach and train someone with less knowledge in a community of practice. Newby and Hide state with individualized attention, the mentor transfers needed information, feedback and encouragement to the newcomer. Mentors can give immediate access to valuable insights and experiences (Newby, Hide, 2013).

Research suggests mentorship programs can provide a means of learning a form of indirect knowledge through socialization and internalization, that formal training can not teach, in building core capabilities (Swap, et. al, 2001). Mentoring can prove

advantageous for the organization as well as for the individual. A study of the value of mentoring found that mentoring brought higher levels of retention, employee satisfaction and knowledge management and retention of core business capabilities. Overall greater morale in the culture of the organization and succession planning are also beneficial to the organization (Clutterbuck, David, 2011).

Through the use of a mentorship program, newcomers are granted a greater level of access to the varied wealth of knowledge and skills of the community of practice. Much like our SA program which introduces CSUN students with an interest in IT to the community of practice, a mentorship programs for newcomers would allow new hires (as well as current practitioners who wish to branch out to other fields) to experience peripheral participation in high levels of IT activities and watch masters perform. Masters would be able to communicate their thought processes and describe and teach their decision-making practices to interested others. Newcomers, through a mentorship program, would be able to practice activities in the community by performing tasks that are not critical in nature but yet are tasks that have value to the community. As with students in the SA program, over time, newcomers in a mentorship program would gain greater knowledge through their deeper and more varied participation in the community and eventually amass knowledge to progress from newcomer to practitioner, perhaps with a greater knowledge base and greater variety of skills and community engagement than had they not been mentees.

Evaluation

I propose two potential methods of evaluating the benefits to be gained by adding a framework of mentorship in IT departments. One is to identify a similarly structured IT department at a different organization that already uses mentorship pairing for new employees. I would use interviews and survey instruments at both companies (one with, one without mentoring) to study the efficacy and benefits of such a program. The second method would be to design and implement a mentoring program in my IT department and, using interviews and survey instruments both before and after implementation of the program, determine whether the program is beneficial to the IT community and whether it reaches desired goals.

Conclusion

My workplace is indeed a bustling community of practice comprised of practitioners in a variety of concentric fields and subspecialties that overlap with one another and provide for both lateral and upward growth, as well as the exchange of detailed, technical information. When taken advantage of, these factors can work to enrich fellow employees and combat workplace stagnation. Some individuals, such as myself, have grown comfortable navigating these various fields and seeking out the tutelage of other practitioners and masters to expand our knowledge bases, so as to increase mastery and enable ourselves to provide the most timely, thorough and accurate service possible. For those in IT who are less inclined to reach out, an optional mentoring program could prove beneficial to both individuals and the organization as a whole.

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