Approaches to Understanding a Socio-Cultural Experience of Global Knowledge Workers

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Abstract

Like many studies on knowledge workers, software development has been studied with a microscope on developers predominantly in the Global North. With this restricted focus, little research has described the experience of emerging group of software developers or any other knowledge worker. Why is it important to understand the experiences of knowledge workers in these communities? What is the best way to approach studying these emerging communities when researchers do not explicitly identify with them? How should researchers approach empowering these groups? In this position paper, we explore these questions to identify and engage with knowledge workers of marginalized communities, globally.

Author Keywords

narrative research; socio-cultural; knowledge work

CCS Concepts

•**Social and professional topics** → **Geographic characteristics; Race and ethnicity;** •**Human-centered computing** → **Empirical studies in HCI;**

Introduction

Although software development is a global task, a great emphasis has been placed on how software developers in the United States build software. However, the emerging pres-

ence in open source software communities, only recently documented, encourages researchers to consider how people build software around the world including Nigeria, Singapore, and Iran [4, 5]. In the same fashion, empirical research published in ACM and IEEE research venues fail to significantly understand the broad perspective of knowledge workers from countries outside of the Global North. To better collect the cognitively demanding experiences of knowledge workers who identify with marginalized communities, we as researchers must continue to empirically collect stories at the intersection of identities. However, some researchers may be ill-equipped to study these communities. In order to guide researchers to respectfully study and empower marginalized knowledge workers, we outline approaches from previous literature that have been used to understand individuals at an intersection.

In this position paper, we describe approaches to studying and reporting socio-cultural experiences. In order to describe what has been successful and documented, we draw on literature that highlight intersectional experiences. The approaches that we highlight here include: perspective alignment, community trust building, and narrative research. We present recommendations on how these approaches can be used throughout the research process.

Why Study Country-Specific Experiences
Conducting research that expands beyond one geographic context helps the research community as a whole gain an understanding of the prevalence on problems and studies at a global scale. When researchers confine their research to a single geographic context without explicit acknowledgement, they not only ignore the perspectives of the full population of the study, they also inadvertently reinforce the norm that understanding the broader community does not

matter. As technology evolves, this negligent practice amplifies over time.

To denounce the old norm as much as possible we should follow the recommendation of Schlesginer et al. to embrace the complexity of identity [11]—especially at the intersection of who builds the software and who uses it. Doing so will encourage the research community to embrace antiessentialism of the contexts we study [1] and thus provide a more impactful research-to-practice pipeline.

Conducting research studying country-specific experiences, like studying gender-specific or race-specific experiences, often focuses on the experiences of the marginalized and will require that researchers "go deep" and set the full context for their research for it be fully understood (e.g. [13, 3]). As arduous as it may be, this incremental process of collecting contextually rich experiences and reporting appropriately can advance the field.

Research Approaches
In this section, we discuss approaches for researchers to study marginalized knowledge workers in three phases of the research process: research question formation phase, identifying a relationship with community under study, and reporting the results through their stories.

Perspective Alignment
As with all empirical studies, the research questions asked will guide the approach to answering the question. Hence, perspective alignment of how those questions are asked are equally important when studying experiences of those from marginalized communities. One example of perspective alignment to understand this experience in an abundance lens rather than a deficit. Specifically, rather than approaching research with the a perspective of understanding what a community may be lacking, researchers

should come to the study understanding how does these participants interpret their successes in that arena. Strega and Brown suggest that "investigating the strengths and strategies that allow communities and individuals to survive marginalization might make a better contribution" [12]. Researchers can challenge themselves to align their perspective by conducting observational studies of how members of the community of study refer to their own experiences.

Community Trust Building
A major challenge of studying historically marginalized communities when the researcher is not native or does not identify with the community being studied. Although being a member of the community under study can greater intellectual understanding of the community's experiences [14], not being a member does not disqualify a researcher from studying the group. In all cases, whether a community native or not, it is important to establish trust with the community under study. Building trust can increase response rates and encourage participants to be forthright in responses. One approach at building trust with a community is by meeting the community where they are. For example, in studying the experiences of open source software developers in Nigeria, it would be of great interest to attend a conference on that topic in Nigeria. Connecting with members of the community and identifying oneself as a research advocate can help establish ties. Likewise, connecting with renowned leaders of the group of study as community partners can help drive research directions. Building these strong community relationships can take an extended amount of time, but are required for impactful research.

Narrative Research
After identifying research questions and a community of participants that one has built rapport with,the next challenge is how to collect these experiences and report them appropriately through narratives. Narrative research is a systematic approach to studying, understanding, and interpreting stories in context [8]. A popular model of narrative analysis in HCI is thematic analysis where the focus of the analysis on what is said. However HCI could benefit from more frequently adopting a version of *structural analysis*— where research is focused on how the stories are told [10]. One approach that advocate researchers have relied on is storytelling [9]. Specifically, storytelling through the media of books [6], blogs [2], and podcasts [7] have become an empowering mechanism to allow participants recount experiences in their own terms and *on their own terms*.

Conclusion
By sharing approaches of how to connect with marginalized communities globally, researchers can then gain a better understanding of how knowledge workers build systems. More importantly, we can gain a better understanding of technical experiences through a socio-cultural lens.

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