Digital Transformation of Ghana Judicial Sector: An Activity Theory Perspective

Maud Elliot
John Effah
Richard Boateng

Follow this and additional works at: https://aisel.aisnet.org/sais2023

Recommended Citation
https://aisel.aisnet.org/sais2023/16

This material is brought to you by the Southern (SAIS) at AIS Electronic Library (AISel). It has been accepted for inclusion in SAIS 2023 Proceedings by an authorized administrator of AIS Electronic Library (AISel). For more information, please contact elibrary@aisnet.org.
DIGITAL TRANSFORMATION OF GHANA JUDICIAL SECTOR: AN ACTIVITY THEORY PERSPECTIVE

RESEARCH IN PROGRESS

Maud Adjeley Ashong Elliot
University of Professional Studies, Accra
maud.ashongelliot@upsamail.edu.gh

John Effah
University of Ghana
jeffah@ug.edu.gh

Richard Boateng
University of Ghana
richboateng@ug.edu.gh

ABSTRACT

The purpose of this study is to understand the digital transformation initiative in the judicial sector in Ghana. The study uses activity theory as an analytical lens to understand the relationship between the actors (i.e., entities that interact with the system and are also part of the digital transformation process) and the e-Justice system that was implemented in the judicial sector in Ghana. The study employs an interpretive case study approach to understand how the judicial sector transforms its processes digitally. The results from the preliminary study show that the unavailability of needed digital infrastructure affects the smooth implementation of the digital transformation initiative. The implementation process progressed speedily as the management of the judicial sector bought into the vision. However, the relationship and interaction of the actors must be studied further to understand the different interactions among the actors within the context of the activity theory model.

Keywords:
Digital transformation, Judicial sector, Activity theory, e-Justice system

INTRODUCTION

The adoption of digital transformation (DT) has become a typical phenomenon in many countries and sectors in recent years. This phenomenon has increased progressively due to the Covid-19 pandemic (Tungpantong et al., 2021; Mandviwalla and Flanagan, 2021; Okano et al., 2021). DT has received attention in the Information Systems (IS) community (Skog, 2019). DT refers to the process which an institution or a society transforms through the adoption of digital technologies to create value (Vial, 2019). Research in DT has involved sectors such as education (Tungpantong et al., 2021), manufacturing (Liere-Netheler, Packmohr and Vogelsang, 2018), small businesses (Mandviwalla and Flanagan, 2021), and pharmaceuticals (Okano et al., 2021)., DT is driven by digital innovation (Skog, 2019). It is demonstrated through new value propositions, end-user experiences, operational processes and business models as a process of organizational change. The government of Ghana is adopting DT approach to improve public services including the judicial sector (Bawole and Langnel, 2022).

DT in the judicial sector is developed to make the delivery of justice more open and accessible to all citizens (Yavuz, Karkin and Yildiz, 2022). In the context of the judicial sector, DT could involve the usage of technology to improve various facets of the legal process, such as electronic filing of documents, online dispute resolution, virtual hearings, legal research and analytics, and many more (Loo & Findlay, 2022). Despite the growing adoption of DT in the public sector (Drossos et al., 2018), limited studies have examined the digital transformation initiative in the judicial sector (Hanelt et al., 2021). This, thus, this study aims to address this gap in the literature by using an interpretive case study approach and activity theory as a theoretical framework to understand, from the perspective of the actors involved, the motivations and drivers behind the digital transformation initiative in the judicial sector in Ghana. The research question is ‘What are the motivations and drivers behind the digital transformation initiative in the judicial sector in Ghana?’

Examining the interactions and relationships among various actors within the judicial sector, including judges, lawyers, court staff, and citizens, this research seeks to understand the complex and dynamic forces at play in the DT process. Hence, the article is divided into the following sections: background on digital transformation, digital transformation of the judiciary sector, analysis of the case using activity theory, and the conclusions.
THEORETICAL BACKGROUND

Digital Transformation of the Judiciary

DT has gained interest in the IS researchers (Bharadwaj et al., 2013) and practitioners (Fitzgerald et al., 2013) community. The judicial sector is the independent sector of government whose role and mandate are to administer and maintain law and order as well as human rights. The activities of this sector involve a judicial process. The judicial process essentially entails various forms of data gathering and communication among stakeholders. This includes filing and repair of processes, and exchange of documents and paperwork which makes the conventional practices and procedures prone to undue and avoidable delays in justice dispensation (Garth and Abraham, 1982; Murphy and Pritchett, 1986). Hence, the judicial sector must digitize the judicial process by involving all stakeholders in the sector.

Electronic justice (e-Justice) entails the usage of information and communication technology to modernize the judicial process in a particular jurisdiction (Yavuz, Karkin and Yildiz, 2022). Velicogna (2007) provided illustrative examples of e-Justice systems. These systems can give support to judges, lawyers, and other judicial stakeholders in terms of word processing, local archiving, and e-mail exchange. Also, e-Justice systems offer an effective case management process through an automated allotment of a case to officials, electronic processing of court proceedings, and monitoring of the situation. Incorporating digital technology and contemporary management practices into the e-Justice systems may be powerful instruments to improve the efficiency of judicial institutions.

According to recently published literature in the field of IS, the adoption of digital technologies in the judicial sector can lead to several benefits, including increased efficiency and productivity, improved data management and analytics, enhanced collaboration and communication, and greater transparency and accountability (Yavuz, Karkin and Yildiz, 2022). A report by the National Center for State Courts found that courts in the United States have been increasingly implementing digital tools to automate courts’ routine tasks such as document processing and case management. The report also noted that these tools can make it easier for citizens to access court services and information, and can help to improve the transparency and accountability of the court system. Similarly, a study of the digital transformations in Uzbekistan by Shin, Ho and Pak, (2020) shows that the efficiency of services was improved, but there is a need for legislation to complement the judicial acts for effective legal protection of the rights and interests of subjects of digital civil circulation. Moreover, an investigation into the digital transformation in the judiciary in Iran revealed that harnessing the full benefits of technology is dependent on culture, skills and laws (Kondori and Rouhani, 2021). These findings underpin the fact that there are challenges that erupt when digital transformation occurs. Some of the key challenges that have been identified in recent literature include funding, legislation, culture, training, and staff capacity. The court staff and judges may need to be trained on how to use new digital tools and systems (Jneid, Saleh and Fakhoury, 2019). This can be a significant challenge, especially if the staff and judges are not familiar with technology and/or are resistant to change. Data privacy, security, and accessibility are also major challenges as even the most advanced technology systems can be vulnerable to glitches and technical issues, which can disrupt court operations and undermine public confidence in the court system (Chawinga et al., 2020).

Activity Theory

Several authors have applied different theories in DT studies including business process reengineering, resource-based view, dynamic capabilities, organizational learning theory, and network view (Nadkarni and Prügl, 2021). Activity theory (AT) is used to understand and analyze human interactions using artefacts and tools (Leontiev and Laureate, 1978). According to Iyamu and Shaanika (2019), the theory is used to study and assess IS and technologies in organizations. An activity is an action-related process. Activities always occur in a context, which Engeström (2000) defined as a network of many components that link up to form an activity system. This system comprises interdependent components such as subject, object, rules, community, and division of labor as illustrated in Figure 1. These components are also known as AT concepts.

![Figure 1: Engestrom’s Expanded Activity Theory Model (Engeström, 2001)](Image)
This study posits that the AT provides an intuitive viewpoint on the actors in the judicial sector by understanding the interrelationships of the AT concepts (Leonтьев and Laureate, 1978). A subject in AT is a person or a group participating in an activity while an object is an aim the subject seeks to achieve. These concepts have been reduced to five fundamental notions (Engestrom, 2000). The fundamental principle is that the analytical unit must be an activity system. The second is that many traditions, interests, and viewpoints can be reflected in activity systems, which have numerous perspectives. The third trait is historicity, which refers to the fact that activities evolve and advance over time and that these developments are founded on the activity's past (Kuutti, 1996). Contradictions fall into the fourth category and are based on the idea that rather than acting independently, acts are frequently influenced by their surroundings and other activities. The final concept is that activity systems can undergo broad modifications. Activity systems may change, especially if disputes get heated and some people start to question and depart from the rules. When the activity's object and motive are changed to incorporate a new object and motive of the previous ones, an expansive transformation may take place. AT is used in other scholarly contexts, which include game analysis and conceptual design (Carvalho et al., 2015), children's musical interaction (Burnard and Younker, 2008), and client-vendor relationships (Effah and Adam, 2021). Many of the studies in which activity theory was used were in the education field and social networks, but not in the judicial sector context.

METHODOLOGY

This study is being conducted as an interpretive qualitative single case study in the judicial sector in Ghana. An interpretive single case study (Myers and Avison, 1997) was used to comprehend the viewpoint of the actors as they interacted with the e-Justice system, a project to improve the legal system in Ghana through technology. An interpretive case study was chosen because it is consistent with the idea that what is perceived as reality and knowledge is constructed socially between the researcher and the respondents (Orlikowski and Baroudi, 1991), especially when the researcher wanted to explore a reality within a complex real-world context (Myers and Avison, 1997). Given that the study is deductive, the researchers discussed and agreed on how data would be collected to align with the concepts of the underpinning theory as well as important themes identified in literature. Consequently, data was collected from multiple sources which include interviews, observations, documents, and media. This is conventional with interpretive research where a researcher can use many data sources to gather data (Walsham, 1995). Data collection was done in two folds. Firstly, we had to familiarize ourselves with the environment, context, actors, and the e-Justice system. The researchers used the observation method through experiential learning and being with the actors at the High Courts of Ghana for a period of six months. Training sessions, demonstration sessions, and project and technical meetings were held to better understand the context. Project documents, correspondence, reports, and user manuals were studied to get insight into the technology. Lastly, primary data were collected, which involved observation and open-ended interviews. The open-ended questions posed made it easier for the participants to express themselves freely while remaining within the scope of the research. Purposive sampling and snowballing were used to identify the actors to be interviewed. The identified interviewees represented the diverse actors who interacted with the e-Justice system. The interviewees included judges, lawyers, filing clerks, process clerks, registrars, bailiffs, court clerks, court recorders, private process servers, auctioneers, litigants, finance, human resource, procurement, and audit staff. In total, twenty (20) respondents were interviewed at their convenience after gaining their consent. The interviews were semi-structured (Myers and Avison, 1997) and lasted between 25 and 40 minutes. Table 1 shows the demographics of the interviewees.

<table>
<thead>
<tr>
<th>Profession (Number of Participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judge (1), Lawyers (3), Filing Clerk (1), Process Clerk (1), Registrars (1), Bailiffs (2), Court Clerks (2), Court Recorders (1), Private Process Server (1), Auctioneer (1), litigants (2), Finance (1), Human Resource (1), Procurement Officer (1), and Auditor (1)</td>
</tr>
</tbody>
</table>

Table 1: The Demographics of Interviewees

To acquire a thorough grasp of the responses and how they contribute to the research goal, notes were taken and the transcribed data were read numerous times to the respondents. For data validation, we carried out iterative data analysis using the interview data, data from other sources, and pertinent literature findings. Following the principle of hermeneutics (Boell and Cecez-Kecmanovic, 2014), the interviewees were followed up as needed to confirm any newly discovered information. After examining the research findings for reliability and validity using hermeneutic cycles and historicity (Boell & Cecez-Kecmanovic, 2014), we stopped when no additional and pertinent new insights were identified. The historical context of the evolution of technology in the judicial sector was important as the hierarchical analysis of the activities. Linking the concepts of historicity, the hierarchy of activities and the hermeneutic circle approach shaped the interpretive analysis employed in the study.
CASE DESCRIPTION

The case description shows how technological use in the judicial process has evolved over time in the judicial sector in Ghana. Voice recorders, stenography machines, computers, microphones, speakers and typewriters are frequently utilized in the High Courts in Ghana. The Government of Ghana established the Fast Track High Court in 2002. This High Court was equipped with computers, audio recording equipment, and case management systems to facilitate the judicial process and delivery. The speed at which the backlog of cases was reduced demonstrated the importance of technology. Between 2007 and 2008, some courts prohibited the use of portable electronic devices in the courtroom. In 2009, computers for printing emails as evidence were allowed. In some cases, the use of a laptop and a projector with a laser pointer are allowed to conduct trials in commercial courts. Nevertheless, with the development of software for cases and documents, some courts still required hard copies of law reports and statutes as the authorities. In 2012, the election petition case was the first live television broadcast from a courtroom in Ghana.

The e-Justice system is one of several e-government initiatives that Government of Ghana aims to improve the services in the public sector. The Government of Ghana implemented the e-Justice system in 2018 to address the problems, especially the delays, in the delivery of justice. The pilot phase began with the High Courts located at the Law Court Complex in Accra. Despite its constraints, the judicial sector has undertaken several measures, through the re-structuring of its ICT base to strategically position itself in order to deliver its mandate. However, there remain gaps in the processes. To this end, the Ministry of Communications is collaborating with the Judicial Sector in the development of an e-Justice project, funded by the World Bank, as part of the Ministry’s overall e-Ghana Project. The e-Justice project aims to assist the Judicial Sector to overhaul its existing court automation program, and ultimately aid in improving justice delivery in Ghana. The e-Justice system applications include e-case management, e-records management system, e-notification SMS system, e-case filling system, e-citizen information system, e-lawyers’ portal, e-court fees payment system, e-judicial decision application system, e-laws, and e-court recording (audio-video).

In this study, the actors of the Ghana e-Justice system described their expectations before the system was implemented and their observations over a six-month period. Their daily interactions with the system and responsibilities were shared as well. From the iterative preliminary interviews, below are a few comments from the actors.

\textit{"I am not tech savvy, but I re-oriented myself not to be left behind. I am sure if there are consistent training and policies that would enforce the use of the e-Justice system, I would use the system"} (Judge).

\textit{"I have used the e-Justice system since it was deployed and I have loved using the system because I could file my cases from home, get my invoices and pay via mobile money. Unfortunately, the system is down when I want to use it most of the time. I find out that there were power or system outages"} (Lawyer).

\textit{"My main responsibility is to serve court processes and that is achieved with just a click when the e-Justice system is working; else I have to travel all over the city to serve court processes"} (Bailiff).

PRELIMINARY ANALYSIS

<table>
<thead>
<tr>
<th>Elements</th>
<th>Activity System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity of Interest</td>
<td>Transformation</td>
</tr>
<tr>
<td>Object</td>
<td>To adapt daily work practices, increase efficiency, clear backlog of cases, equity in the delivery of justice</td>
</tr>
<tr>
<td>Subjects</td>
<td>The actors are diverse, ranging from all judicial sector staff including judges, lawyers, filing clerks, process clerks, registrars, bailiffs, court clerks, court recorders, private process servers, auctioneers, litigants, and finance, human resource, procurement and audit staff to the e-Justice development team.</td>
</tr>
<tr>
<td>Tools</td>
<td>This activity is completed by using new tools, computers, high-speed internet access, scanners, and collaborative software applications such as Microsoft teams that require employees to work differently</td>
</tr>
<tr>
<td>Division of Labor</td>
<td>The Chief Justice, the directors, deputy directors at the e-Justice department, as the well as registrars supervise and sponsor activities</td>
</tr>
<tr>
<td>Rules</td>
<td>Constitutional Instrument (CI) 47 which is the civil procedure rules applied to the circuit and high courts, and CI 86 which contains fee schedules that must be adhered to.</td>
</tr>
</tbody>
</table>
Community | The judiciary service, the Ghana Bar Association, the Ghana Legal Counsel, the Ministry of Communication and Digitalization, and the Government of Ghana are involved for consulting purposes
---|---
Outcome | Digitally transformed judicial processes

Table 2: Judicial Sector Digital Transformation Activity System

**Historical Context**

The case described above uncovers the historical context as well as some motivations. The historical antecedents show that transformation activity has occurred over time. The meeting face-to-face in the courtroom is the only justice delivery format the judicial sector in Ghana operates. Lawyers go to court only to find out that the judge is absent. If the Ghana e-Justice system operates well and judges are trained continuously in adopting the system, valuable time could be saved. Furthermore, the series and iterative interviews of the actors revealed that the judicial sector in Ghana is saddled with a backlog of cases. These could be cleared if the e-Justice system works as it should.

**DISCUSSION**

This section reviews the findings of the study. It is evident that the various actors interact with the e-Justice system with the intention to digitally transform and improve the judicial sector in Ghana. DT is a process, therefore it needs time, resources, and the buy-off of all the actors. It is also evident that the roles of the elements as applied in activity theory overlap (Engestrom 2000). Each element is important for the sustainability of the other. The success of Ghana’s DT initiative depends on how each actor responds to the initiative. DT in the judicial sector is advancing because the Chief Justice of Ghana, who is the head of the judicial sector, has bought into the initiative, and driven its success by tagging the rest along. To increase the number of employees who are technologically inclined, the judicial sector has recruited tech savvies to bridge that gap. Moreover, collaborative tools such as Microsoft teams are used during legal vacations to handle some cases that are heard online. The study shows that the inaccessibility of the required digital infrastructure affected the DT initiative. Also, system and power outages were a major source of worry. Ghana is a developing country in West Africa which faces technological challenges including high cost and infrastructure as other developing countries (Rosa et al., 2013), the lessons learned from Ghana may be applicable to other developing countries in Africa (Boateng, 2016).

**CONCLUSION**

This study is a research in progress and is set up to comprehend the intended digital transformation initiative in the judicial sector in Ghana from the perspective of activity theory. The originality of this work lies in understanding DT in the judicial sector in a developing country’s context, particularly in Ghana. Some findings emerged. It became evident that when the head of the judicial sector bought into the vision, the implementation process progressed speedily. For research, the use of activity theory as a theoretical lens explains the interactions and relationships among the actors. The judicial sector’s IS literature is also extended. For practice, understanding the roles and relationships among the actors was crucial to shaping how DT initiatives come out. For policy, this study has provided policymakers with feedback to enable them to handle DT initiatives better in other sectors as well. We recommend that future research investigates the contradiction in the analysis and the culture of the judicial sector in adopting DT initiatives as well as study other contexts and settings.

**REFERENCES**

Uzbekistan’. 22nd International Conference on Advanced Communication Technology (ICACT), Phoenix Park, Korea (South), pp. 632-639.


