Abstract

The human existence has continuously sought to find information and preserve it for posterity. Information preservation is therefore one of the most important tasks of communities and organizations. The act of preservation of elements of human existence does not only feed to aesthetic functions but also to a fulfillment of accountability needs of the society. In this digital culture of 'data everywhere' the demand for accountability is high necessitating a redefinition of information management practices. Information is now more correlated than ever and found in large quantities known as 'big data'; it is pervasive, difficult to capture, store or analyze. In this paper, the International Criminal Court (ICC), a judicial organization that has the preservation of its information as a critical aspect of its judicial obligation is discussed. Born in the *digital age* the Court has adopted an eCourt strategy covering all aspects of its operations. And to solve the accountability challenge its records and archives functions are redefined towards information orchestration and less towards traditional preservation. In this paper therefore, ICC's information management practices and tools are referenced.

Key Words: digital culture, archives, big data, records management, preservation

Themes:

- Information value and accountability
- Records managers and archivists as part of the information system
- Probabilistic and unpredictable
- Intuition and Trust
- Records managers and archivists as orchestrators

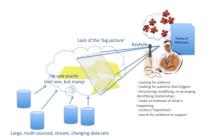


Currently, 122 states are states parties to the Statute of the Court, including all of South America, nearly all of Europe, most of Oceania and roughly half the countries in Africa. A further 31 countries including Russia, have signed but not ratified the Rome Statute.

The International Criminal Court's archives document its investigations, indictments and court proceedings, their work relating to the detention of accused persons, the protection of witnesses, victims participation and enforcement of sentences, and their relationships with States, other law enforcement authorities, international and non-governmental organizations and the general public.

Information flowing through the Courts is now more correlated than ever and found in large quantities known as 'big data'; it is pervasive, difficult to capture, store or analyze. In this paper, the International Criminal Court (ICC), a judicial organization that has the preservation of its information as a critical aspect of its judicial obligation is referred to contextually. Born in the digital age the Court has adopted an eCourt strategy covering all aspects of its operations. And to solve the accountability challenge its records and archives functions are redefined towards information orchestration and less towards traditional preservation.

The Big Picture



This paper may not necessarily change your life but could point to a different way of looking at the changing role of an archivist. In this discussion I shall focus mainly on the role of the digital archivist in a born-digital (BD) environment from my experience from years of working in International Criminal Law area.

The most common being an archive is a repository of documents and materials of importance to the public. A scholar Alan Liu shared his thoughts of an archive being a term that is used when one cannot grasp the nature of the holds. For an archive to remain relevant its repositories must have holds of value to the public. Therefore the relevancy of the Court's archive lies in its ability to act as an instrument of accountability for the states and public.

Digital archivists (DA) in the international judicial sector often work in small teams, and are required to make sense out of large data sets that come from all around the world and in different formats, and are often of varying quality and reliability. For the DA peering through the tiny viewport of his or her computer display to this very large data space is like a person peering through the keyhole of a door to an enormous hall. To gain a sense of what the hall is like, the DA must piece together his or her different views from understanding and experience, which can lead to many problems associated with trust, accountability and ethics.



Digital archiving, a term developed in the advent of information technology evolved from the traditional archiving seeking to preserve data in its smallest unit. Within the Court digital archive term is used to refer to everything currently existing in digital format anywhere and their subsets, typically discrete collection of related digital documents.

The archival discipline consists in building knowledge about archival documents and acting upon them in methodical ways to protect the properties that they have. Thus, the large theoretical question in the case of digital objects in the Court is what are those properties that need to be protected, and why.

The matter at hand, the thing being done, produces the document, which then stands as a vehicle or device to access the fact and act. Documents of this type are thus regarded as having what the Court staff call full faith or public faith or, as professionals would say, as possessing trustworthiness as evidence of fact and act-if they are preserved in the place the Court has appointed and according to fixed and well understood administrative procedures. From this basis, the discipline of the archivist as keeper of the records has grown.

The Court has to employ other methods to ensure wide access and long-term preservation of digital data.

Value



There are two strands of theory that the Court uses to guide its practice. One is archival theory and the other is appraisal theory. Archival theory is the older of the two, originating in the role of archivists as keeper of records. The appraisal theory prescribes to archivists nowadays also taking upon themselves to answer the question what should be preserved.

In the case of analog or non-digital materials, artifacts are deemed to have singular research or archival value if they retain qualities and characteristics that make them the only satisfactory form for long-term preservation. These qualities and characteristics are commonly referred to as the item's intrinsic value and form the foundation upon which digital artifactual value is currently assessed.

In the born-digital world of the Court, data interferes with each other when presented with multiple flows, and any measurement of its archival value forces decomposition to bytes of data or footprints that are difficult to assess. One problem at the start of the valuation for archiving occurs when the DA is presented with a large set of information from the field, and he or she has to make sense of it. In the born-digital world however, seeking to measure archival value fundamentally alters the properties of the data one is studying. The result is that identifying data that can be safely disposed is just as difficult as identifying data of archival value.

Accountability

ACCOUNTABILITY
You will only hold yourself
accountable for goals that
others know about. Tell
someone what you're up to

The inability to resolve traditional accountability of information with the digital world and really, to even imagine how the two are even related belies the only truth: we can never really account for most events around BD.

First, the basis of accountability begins with the understanding that archival value is a function of documents as evidence. This makes sense when we take into account that archivists in the Court are traditionally keepers of judicial documents. As keepers of evidence, trust is a value of paramount importance to archivists and all of the archival methodology is geared towards making sure that the documents in custody remain trustworthy accounts of past events.

Driven mainly by technology, uncertainty has recently been growing exponentially.

Interconnections have brought new degrees of freedom/dimensions to digital transactions, and all of these at speeds we have never seen before. Accountability has traditionally been seen to be working in the opposite direction, adding uncertainty to outcomes and often reducing speeds. It seems to be losing the battle in my view.

In Internal Judicial archivists no longer serve the records creator alone, but are accountable to the society as a whole. There is also a shift from micro to macro-appraisal starting by looking at the organizational structure of a records creator, determine which tasks performed by this organization are relevant and then determine the informational and evidential value of the documents created in the course of the performance of these tasks.

The professional becomes part of the data-information system



The notion of the archivist becoming a part of the data-information system as seen in the Court is not fundamentally new. In our organization, the archivist is no longer external and neutral, but through the act of ingestion and dissemination becomes a part of the information ecosystem. It also has huge implications on the role of the new archivist in the BD world.

Bohm (2003) stated that there is very little separation between the observer and the observed. He stated, "...the observed is profoundly affected by the observer, and the observer by the observed – they really are one cycle, one process" (p. 70).

Since the BD object being examined and the measuring apparatus cannot be isolated from each other in an unambiguous way while interaction is taking place, the system that is being investigated cannot be considered as being closed. Even the archivist as an extension of the measuring apparatus cannot be isolated from the situation. It is for this reason that the classical appraisal process is not definitive for BD in the context of the Court.

One conclusion from this is that BD information is a multi-faceted concept that changes its properties, and hence its definition, according to different unique perspectives. Or, in other words, the archivist becomes part of the archived. It is rather perplexing to discover that this is the very definition we in vain, desire to run away from "falling down, waking up and running some more". In other words, the "former", that is he who gives shape, becomes part of the form, hence "in form".

Unpredictable



The other major implication of born-digital archives in the Court is that the process of accountability is entangled in complexity. As our archivists come to understand more and more about born-digital content, it seems increasingly likely that events on a data level are not only truly unpredictable, but simply infinitely more complex than ever previously imagined.

The actions on data in one location often have a remarkable and unexpected impact to another seemingly disconnected group of data. Because of this, one key facet of digital archived accountability is recognizing that every action can have unexpected and exotic consequences. In practice, this means that the outcome of any given policy decision or action is nowhere near as predictable as previously supposed: ensuring protection from viruses does not necessarily bring security, policies intended to manage protection can create crises in other areas, such as data integrity and provenance.

The BD archivist may require developing expert skills in computer science, mathematics, and statistics as they act as appraisers of BD materials. Such archivists would take a vow of impartiality and confidentiality, much as accountants and certain other professionals do now.

Probabilistic

neter probability sensitivity

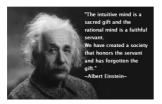
Accountability in born-digital world is thus probabilistic, even in the presence of a great deal information of the current situation, it is impossible to predict its future value exactly, regardless of how much work and care one invests in such a prediction.

Once we acknowledge that the BD domain is fundamentally probabilistic, so that the basic laws governing the way BD data interact with one another are probabilistic, it is clear that traditional measurement of value cannot be a satisfactory necessary and sufficient condition for forecasting events. Probabilistic interactions must be occurring in the BD domain whether or not archivists are around to determine archival value. We require a new fundamental perception of archival value of born-digital data and in extension begin to solve the accountability problem.

If you're not convinced yet, consider a statement like this: "This hard-disk has a 60% chance 1% data loss after 10 years". There is no way to determine this by retaining the specific hard-disk for the next 10 years a large number of times and checking that 1% of data is lost about 60% of the time. Nonetheless, I claim this statement is meaningful. If you don't believe me, argue with the digital archivists and technology specialists who post odds and make decisions on such events. They make their living by doing this!

The total function is all the values of the data, and the combined effectiveness of all the controls for various exit vectors. This is an oversimplification, but I'll save the details for the geeks in the room to work out.

Intuitive Ability



A challenge for BD archivists is the amount of information available. Studies have found that when too much information is available there is a tendency to paralyze the decision maker, particularly if they have a propensity to take a rational approach, the more options available the higher the likelihood of 'paralysis through analysis' (Eisenhardt and Zbaracki 1992).

According to Miller and Ireland (2005), rapid decision making may be the only possible approach when resources such as time and funds for decision support are constrained.

The important conclusion here is that intuitive perception of future events are related to the degree of emotional significance of that event (Bradley 2006). Therefore, passionate intentional interest may be a significant factor in the intuitive capacity of BD archivists, which provides a role for the heart in responding to intuitive archival information.

We have seen therefore that the credibility of conclusions based on probabilities and analogies does not depend solely on logic; it also depends on non-formal judgments (Intuitive). Estimations of significance and judgments are essential when shaping a conception of the value of information today.

Trust Relationships



The success of the digital archivist profession relies heavily on developing relational interdependence - a reality that can only be achieved if archivist's faith in each other can be restored and the gulf of paranoia overcome. If we can restore relationships, we can stem the growth of fear and "siloism" that plagues the digital archive world.

But keeping archives in a protected and ordered state is not an end in itself. The trust that archivists try to generate is of importance to society as a whole. In this sense, archivists should be compared to other "trustworthy" professionals like judges or bankers.

We should remember that it is not necessary for us to blindly accept the models or conditions we are given to be effective archivists. Instead of considering information technology and economic progress an end in itself, we could focus our attention on understanding human nature and culture in order to sustain trust relationships.

Orchestration



According to Fullan (2001), "Leadership ... is not mobilizing others to solve problems we already know how to solve, but to help them confront problems that have never yet been successfully addressed". In traditional archives, archivists concentrate on objects and are preoccupied with techniques for preserving those objects to achieve goals and results.

Traditional archivists value tight objectives and single-minded dedication i.e. they stick to the "knitting".

In contrast, in the BD approach to archiving, the archivist assumes that in complex systems prediction is impossible; the archivist accepts greater indeterminacy and ambiguity. In light of this, the archivist relies on intuitive feel for situations, and trusts in the character, creativity, and abilities that they and others bring to the organization. Consequently, digital archivists strive to help build an ethos of cooperation and integration that is very different from the traditional of control. "Use is the end of all archival effort," Theodore Schellenberg declared, and we must give it a priority value.

A digital archivist that actively reflects upon the day-to-day operations of the entire business will outperform all others. A higher state of consciousness helps to get things done with fewer wasted efforts and failed attempts.

The most interesting and rewarding questions in human experience may well lie ahead of us, if we can only learn to improve our sensibilities and our understanding in a conscious way, widen our horizons, and seek moral maturity.