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Integrated Justice: An Information Systems Approach to Justice Sector Case Management and Information Sharing
Case Study of the Integrated Electronic Case Management System for the Ministry of Justice in Rwanda

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Abstract:

Automated Case Management Systems are still at an early stage of adoption in many developing countries. These are frequently standalone systems implemented with donor financing, and they often fail due to capacity constraints or as a consequence of short-term, project-based funding. But there are examples of developing countries overcoming these pitfalls and producing innovative solutions that surpass government practices in more developed countries. The Integrated Electronic Case Management System (IECMS), developed and implemented by the Ministry of Justice of Rwanda from 2015-2016, is one such innovation. This system has progressed rapidly in its level of adoption and integration between law enforcement, the prosecutor's office, courts, and corrections. This paper will discuss the key system functionalities and the implementation methodology, including both the benefits and shortcomings of this approach, with the goal of applying lessons learned in future installations. Foremost among the successes of this project were the integrated Sector Wide Approach, the thorough business process reengineering, and strong ownership by the Rwandan Justice Sector staff. Particularly instructive will be the analysis of the integrated approach, covering five institutions with a single system in less than two years. However, the particular success in this case may not be replicable for governments with a more decentralized approach.

Keywords: Case Management System, International Development, Integration, Rwanda, Sector Wide Approach

1. Introduction

Twenty-three years ago, Rwanda was economically, politically, and socially shattered. The 1994 Genocide against Rwanda's Tutsi population wiped out any semblance of a viable state. The government that assumed office had an uphill task in resurrecting the economy and attempting to restore justice and order. Although the transformation did not happen overnight, sustainable improvements in economic and development indicators have made Rwanda a remarkable case study in development transformation.

One of the key enablers of rapid development initially identified by the Rwandan government was Information and Communication Technology. This was included as one of the major priority pillars upon which the Rwandan economy would be built. The Justice Sector has been a recent focal point of this IT transformation with the implementation of an Integrated Electronic Case Management System (IECMS). The implementation of this system provides valuable insights into the unique challenges and benefits associated with implementing Case Management Systems in a developing country context.

2. The Justice Sector of Rwanda

The Justice, Reconciliation, Law and Order Sector of Rwanda (commonly referred to as simply "the Justice Sector") is a sector-wide institutional approach led by the Ministry of Justice and consisting of thirteen member organizations. The current institutional organization of the Justice Sector is nascent, with the National Police and the current criminal investigation system formed and established in 2000, the Judiciary and the National Public Prosecution Authority established in 2004, and the Rwanda Correctional Services formed in 2010.

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The purpose of the Justice Sector is to "efficiently provide justice related services to the people of Rwanda with the aim of transforming Rwanda into a country marked by the rule of law, accountable governance and a culture of peace, thus contributing to socio-economic development and poverty reduction."[4] The Sector Wide Approach enables this to happen by providing an institutional arrangement whereby external and domestic funding are pooled to support a single policy and development framework that is country owned and driven.

There are five key institutions within the Rwandan Justice Sector that are directly involved in the development, processing, and execution of judicial cases. These institutions require a detailed level of data sharing to efficiently execute their respective missions. These institutions include the National Police, National Public Prosecution Authority, the Judiciary, Rwanda Correctional Services, and the Civil Litigation Service. In criminal cases, there is a clear flow of information from one agency to the next, and this makes the integrated sector approach both intuitive and necessary. The National Police are responsible for registering complaints, investigating crimes, and gathering evidence. The National Public Prosecution Authority takes information gathered by the police and prosecutes cases within the Judiciary, which is responsible for hearings, settlements, and judgments. Once a judgment is rendered, convictions are handed over to Correctional Services for supervising sentence execution. These activities form one coherent and logical workflow process in which many actors representing many agencies must participate.

3. The Challenge
The 2013 Rwanda Justice Sector Strategic Plan documents the challenges facing the Justice Sector as the government approached its five-year planning cycle. The Strategic Plan identified delays in case disposal, and the perceived subjectivity and uncertainty around case delays, as the root cause of a number of critical problems, such as prison overcrowding, high rates of recidivism, increased opportunities for corruption, and loss of confidence in the justice system. The delays in case disposal were found to be caused by increasing backlogs, poor case management, and poor communication between justice sector agencies.[5] Collectively, these problems were hindering national development.
At the time, Justice Sector institutions were unable to monitor court caseloads. Without this ability, it was impossible to quantify the case backlog or prioritize cases. This resulted in a narrow focus on whatever case happened to be in front of the particular institution or individual at a given time, rather than on a holistic, equitable and systematic approach toward case management.

With the exception of a few basic tools, the Rwanda Justice Sector was completely paper-based. One of these tools was a rudimentary e-filing system.[6] The tool could not verify users or user accounts, and was limited in scope. The Rwanda Correctional Services also had a basic prison management system, but it was not available online and had to be installed separately at each prison.

4. The Implementation Approach
The Ministry of Justice (MoJ), as the lead agency of the Justice Sector, issued a public procurement for an Integrated Electronic Case Management System (IECMS) based on the needs identified in the Justice Sector Strategic Plan. The approach was government-driven from the start, and was fully implemented through Government of Rwanda institutions, with the backing and support of development partner funding. Although Rwanda receives donor assistance and budgetary support from the EU, the Netherlands, Sweden, UNDP, UNICEF and USAID, this project was contracted and managed completely through the MoJ and no development partners were involved in the project implementation or contract management.[7]

The project was executed in stages, and the MoJ prepared the groundwork in a manner that was neither rushed nor unduly delayed. A well-defined TOR was developed by an independent consultant one year before the bidding for application development. Since the documentation provided by the consultant already contained user roles, positions, and workflow procedures for various types of cases, the business process reengineering was largely completed prior to procuring the IECMS. The consultant's report was presented to the awarded software vendor, Synergy International Systems, Inc., prior to the development of an Inception Report and Gap Analysis in January 2015. It was then refined during the needs assessment, with support from the National Center for State Courts. This resulted in a System Design Document, containing 500 pages of prototypes, workflows, and user roles and permissions, that was finally delivered in May 2015.

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[4] http://www.minecofin.gov.rw/fileadmin/templates/documents/sector_strategic_plan/JRLOS_Strategic_Plan_February_2013.pdf [accessed 17 April 2017].
[5] Ibid.
[6] http://www.efs.judiciary.gov.rw/open.php [accessed 17 April 2017].
[7] See note 1, supra.

The system was designed and executed in strategic order. The first iteration of the IECMS, a module for police to track criminal investigations, was finalized in July 2015. The prosecution, courts, and Rwanda Correctional Services were added shortly thereafter and iteratively refined. In this way, software development was done logically, based on the natural process flow of a case, and in accordance with Rwandan civil and criminal procedural law. Through agile development, user feedback was collected and modifications were made until an approved final product was achieved.

The training strategy involved a decentralized, Training-of-Trainers approach. In September 2015, a training was conducted by Synergy to equip the Justice Sector Project Technical Team with the knowledge necessary to train users across the Justice Sector institutions. After completion of the training, the IECMS was finally deployed in January 2016. The product was first launched for fifteen courts in Kigali, and after about six months of pilot operations, training began for the remaining courts. In September 2016, the Minister of Justice and Attorney General conducted a press conference to officially launch the system nationwide, adding 29 new courts.[8] A final launch in June 2017 added 38 new courts, making the system available in every court in the country. The system was promoted throughout this process via television and radio public awareness campaigns and through the support of local internet cafes and trained facilitators.

5. The Solution

The IECMS serves as the single point of entry for all Justice Sector institutions involved in managing cases. The system records all judicial case information from the time a plaintiff files a civil case, or in criminal matters, from the time of arrest through sentence execution, efficiently sharing that information among all relevant sector institutions. The IECMS automates the existing workflow processes of the Justice Sector and provides each institution with a configured interface to perform their specific functions, restricting access based on user roles, permissions, and case status.

General Information data entry

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[8]http://www.minijust.gov.rw/media/news/news-details/?tx_ttnews%5Btt_news%5D=466&cHash=2b1dd2f00482207c0713422386db2533 [accessed 17 April 2017].

Case data entry: Identification of cases with QR code

The case workflow automates the processing of cases from one agency to the next, so that there is a seamless integration of activities and communication. The system automatically sends in-system, email, and SMS notifications to users, and users can create, assign, and track tasks. Information is captured and passed on digitally, and data exchange is no longer fragmented. A detailed audit trail provides a record of all edits and status updates.

The system tracks individuals separate from cases, so that authorized users can access an individual's profile to see their relevant case histories. If the police create a case file on an individual, for example, they will instantly have access to the individual's full case history across all justice sector institutions. This includes comprehensive access to legally authorized police, court, and prison records.

My Cases section in the IECMS system

Dashboard screen in the IECMS

6. Business Intelligence

In addition to case tracking, the IECMS acts as a Monitoring and Evaluation tool for analyzing and reporting on the performance of sector institutions in the provision of justice. This includes reports and graphic presentations of key performance measures, such as the average caseload per judge, the court clearance rate, and the average time to disposition.[9] The analytical reporting tools include ad hoc report builders for charts, graphs, tabular reports, GIS and an Executive Dashboard module for presenting multiple reports in a single view. All reports and analytics can be saved and modified, and are dynamically updated every time a user opens the analytics module.

The IECMS implementation is ongoing, and execution of civil cases will soon be processed through the system in addition to criminal case execution. In addition, future integrations are envisioned with other information systems and institutions, such as the Court Bailiffs, National Identification Agency, Rwanda Development Board, Rwanda Law Reform Commission and Law Library, to permit easy access to shared information directly through the IECMS.

7. Results

The system has now been operational for enough time to observe some preliminary indications of success. The IECMS is accessible nationwide and has over 8,000 registered users, including an average of 5,000 users per month and approximately 1,400 users per day. For an interagency public sector system so recently launched, this level of utilization is remarkable.

Through the integrated features of the system, the Judiciary of Rwanda can now see a comprehensive overview of current cases and case backlogs disaggregated by court and even by judge. This is enabling more strategic planning and resource allocation for the police, courts, public prosecution, and corrections as they monitor overall performance. The system benefits litigants by providing online services for case filing, payments, automated reminders, and free access to summons and judgments. This significantly reduces the burden on the court to respond to in-person requests.

Effective monitoring of the case workflow guarantees compliance to the rules of procedure, which in turn guarantee and protect the rights of litigants, as any misuse of the required procedures is immediately evident. The IECMS speeds up proceedings, eliminates duplication of effort across agencies, and reduces the time required to transmit documents between institutions. It increases transparency, equality before the law, and accountability. It enforces compliance with procedures across institutions, so that one cannot jump the queue, and permits easy access to precedent for judges to ensure quick, fair, and consistent decisions.

The effective implementation of an automated Case Management System has also been the source of international recognition of the Justice Sector, and was specifically cited by the World Bank as the primary factor causing Rwanda's ranking in the Enforcing Contracts section of the Doing Business Report to rise 22 positions between 2016 and 2017.[10] The improvement in enforcing contracts is directly attributable to the IECMS implementation.[11] Rwanda is now ranked second in Sub-Saharan Africa for ease of doing business, and now has the highest Quality of Judicial Processes Index score in the region, even higher than the average for OECD High Income countries. On average, it takes less than half the time to enforce a contract in Rwanda as it does in the average OECD High Income country.[12]

The IECMS was also presented a continental public management award, just 3 months after its launch in 2016, for being the best demonstration of innovative public management in Africa. The award was organized by the African Association of Public Administration Management. The IECMS came in first place among 51 innovation programs from thirteen countries.[13]

8. Key Factors for Success

The key factors contributing to the success of the IECMS include:

Country Ownership – The IECMS development was a government-driven process from the start. This is critical to ensure long term funding and sustainability, as donor funded projects are often short-term and independently executed. The fact that the project was procured and implemented completely through government systems is a testament to the strength of the public sector in Rwanda and to the Court's prioritization of ICT as a rapid development enabler.

Sector Wide Approach and Interagency Cooperation – The level of coordination needed to roll out an interagency information system is highly sophisticated. In Rwanda, this was made possible through the combination of a highly

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[9] http://www.courtools.org/Trial-Court-Performance-Measures.aspx [accessed 17 April 2017].

[10] http://www.doingbusiness.org/Reforms/Overview/Topic/enforcing-contracts#rwanda [accessed 17 April 2017].

[11] http://www.doingbusiness.org/data/exploreeconomies/rwanda#enforcing-contracts [accessed 17 April 2017] .

[12] https://openknowledge.worldbank.org/bitstream/handle/10986/25672/110171-WP-regional-PUBLIC-ADD-SERIES-SSA.pdf?sequence=1&isAllowed=y [accessed 21 April 2017].

[13] http://www.newtimes.co.rw/section/article/2016-03-05/197671/ [accessed 17 April 2017].

centralized government and a predefined Sector Wide Approach. The Justice, Reconciliation, Law and Order Sector has been in place, with a documented strategy, since 2009.[14] This puts the government in the driver's seat, versus individual donor projects with limited capacity for collective strategy and planning.

Proactive Business Process Reengineering – One year before the IECMS development, a contracted consultant performed a thorough business process analysis resulting in some 500 pages of reports, workflows and diagrams. This included a description of the required technical solution and all business processes, down to the level of each individual staff action and the related permissions. This expedited the work of the developers, who were able to quickly validate the workflow with only minor fine-tuning.

Developing from the Beginning – The development of the IECMS was done logically, in the same order as the workflow. Development started with the Rwandan National Police and ended with the Rwanda Correctional Services. This enabled the developers and users to track the development and workflow of case processing logically, making adjustments with a thorough understanding of the precedent for each successive step.

Deploying from the End – Although the system was developed from the beginning, it was deployed from the end. This means that the Court application was rolled out first, which created a demand for data from the prosecution. When the prosecution began using the system, it placed a demand on the police to provide data. This strategy creates a demand for information which motivates the previous organization in the chain of information to provide good data. This pulling of data is more effective than attempting to push data from one entity to another that is not prepared for it.

Focusing Forward – When the Ministry of Justice announced the launch of the IECMS, the Judiciary instructed that from that point forward, each new court activated on the IECMS would receive new cases in the electronic format. Rather than go back and attempt to enter historic cases from the project inception, it is better to initially focus on new cases only. Cases that were underway already were completed without the IECMS. This enabled the court to adapt without the overwhelming requirement to enter all existing or closed cases.

Training of Trainers – A Training of Trainers model was used to reach the large number of users. Some forty trainers were trained to support ongoing efforts at bringing new users online. Many online trainings were conducted during the technical support period, and trainings were held both before and after launching the application, to ensure a continuous rotation of training activities. A separate team of administrators received advanced technical training over a period of seven weeks from June to July 2015 so that they could monitor and maintain the system independent of developer intervention.

9. Challenges Encountered and Lessons Learned

The following are some of the challenges encountered and lessons learned from those who developed and implemented the IECMS, which may provide useful insights for future implementations:

Addressing Capacity Constraints – As mentioned above, training public servants before, during and after launch was a critical first step to addressing capacity constraints. However, even with a strong team of trainers, resources were limited when bringing the IECMS to scale. To respond to increasing requests, the Judiciary established a mailing list of every court that came online with the IECMS. The mailing list enabled users to share problems, questions, and solutions, often answering each other's questions and easing the burden on the core team of trainers. This enabled those who were early adopters to actively assist new users. It was also a good way to monitor feedback from users to help improve the system.

Confronting Institutional Resistance to Change – As with any CMS implementations, court staff and judges are naturally resistant to change. In Rwanda, this was most conveniently addressed through regularly scheduled meetings of court leaders, which were already being held on a quarterly basis. In these meetings, the IECMS team was able to present the many benefits of using the new system. Judges and registrars were mutually encouraged by their colleagues in these meetings, and this proved to be the best way to achieve buy-in from new users.

Promoting Public Awareness – Rwanda faced a major logistical challenge in educating its nearly 13 million inhabitants about the new IECMS. The Judiciary turned to the local radio stations, national network televisions, and local newspapers to educate litigants about the benefits of using the IECMS. The Supreme Court has a weekly slot on a local radio station (Isango Star 91.5FM) which has been used periodically to advocate for use of the IECMS, and representatives of the judiciary made appearances on national talk shows both before and during the launch of IECMS to tell citizens about the

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[14] See note 1, supra.

capabilities of the system and make them knowledgeable about resources available to support them. This proved to be the most effective way to reach the population as most Rwandans have access to radio or television.

Providing Access to eJustice – The Judiciary of Rwanda faced a massive challenge in promoting an electronic government solution in a country where only about 20% of the population has a reliable internet connection.[15] Although required training activities could be used for public servants, the broader public had to be engaged through other means. One solution that was executed by the Judiciary involved the training of youth "facilitators," who could more easily adopt the new technology, and would be able to offer their services in support of new users. These facilitators were deployed throughout the country to inform citizens and help new users create accounts and file cases, receiving a small fee for their services. The facilitators were trained along with workers in cyber cafés, ICT telecenters, and smart villages, mobilizing the private sector to provide e-service kiosks throughout the country so that litigants could get the help they need. The more facilitators that were trained, the lower the cost became for citizens. Poor litigants who cannot afford these services are able to access support directly from MoJ employees, enabling them to file or follow-up on cases free of charge. In addition, since many Rwandans are not fluent in English, user manuals and tutorial videos on YouTube were distributed in both English and Kinyarwanda.

Adapting to Scale – A frequent concern with projects of such an ambitious scale is that they will end up being poorly designed and overly ambitious. The general rule in such implementations is to proceed incrementally - starting with a simple system (basic case tracking) and gradually adding case management features, then eventually integrating with other justice sector institutions. Rwanda is unique in attempting a unified system from the start, which intensified the need for efficient local coordination and left little room for error. This approach was enabled by a phased approach in which the system was rolled out for different regions and different institutions at a moderate pace. This mitigated the demand on Judiciary resources and logistical support. It also enabled the judiciary to learn and apply best practices from one phase to the next. Above all, the process of bringing the application to scale was made possible through focused leadership, a positive reception by the population, and a firm political commitment to embracing technology as a driving tool for development. Given the unique social and political climate, it should not be taken for granted that the successful outcome in this instance could be easily replicated in other environments.

Using Agile Processes – The application was developed using the Agile process which included multiple iterations, prototypes, and user-driven fine-tuning based on the feedback received from actual end-users. This was the correct approach, but our experience showed that insufficient time was allocated for the user testing of each iteration. Something we quickly learned after the system was launched was that no matter how qualified the staff, user testing should be closely guided and accomplished in live scenarios with actual case records to be effective. In addition, the most complex cases should be identified for testing, to ensure that the system can handle any given type of case.

Minimizing Change Requests – When it comes to implementing a useful application, priority must be given to the core tasks that automation can most dramatically and easily improve. This was a constant challenge, and required diligence in balancing the desires of system users against the actual utility of the requested functionality. Overdeveloping the application can stall the project. Beyond being a well-designed system, the tool must actually make the user's life easier. This aspect of change management should be understood from the beginning of the project, in order to focus efforts on the most meaningful areas of impact.

Adapting Procedural Law – In Rwanda, the procedural law must now be aligned with the IECMS, as the automation has made certain procedures obsolete, or modified others. For example, since all litigants can get summons directly from the system, it should no longer be obligatory to service summons manually. The IECMS streamlines procedures and so the Procedural Law must adapt accordingly.

10. Where we go from here
In many countries, the level of integration achieved by the Justice Sector of Rwanda over a period of just two years is not realistic. This may be due to political or organizational constraints, procurement inefficiencies, or entrenched interests restricting the flow of data between agencies. However, if the process efficiencies of the integrated approach can be properly communicated, and the tangible results in improving justice sector performance are properly documented, this may provide the incentive needed for other governments to attempt similar approaches. Defining precisely what environment is most conducive to accomplishing this level of integration is beyond the scope of this report. But as best practices are tested in the developing world, it will be essential to share both the successes and failures of these approaches. It is our hope that this paper contributes substantively to this discussion. We also hope that improving data integration in justice systems will both enhance the ability of justice sector institutions to monitor process efficiencies, and

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[15] https://www.cia.gov/library/publications/the-world-factbook/geos/rw.html [Accessed 26 May 2017].

equip decision-makers with the data they need for criminal investigations and predictive analysis. This will serve to strengthen the rule of law, lift confidence in government institutions, and ensure access to justice.

Further Reading

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