

# Business Process Management for Legal Domains: supporting execution and management of Preliminary Injunctions

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**Abstract.** Business Process Management Systems (BPMS) are widely recognized as fundamental component of the IT infrastructure supporting middle-large organization, thanks to their capacity of providing easy-to-read models of how the organization works, and to the capability of enacting these business processes, supporting and monitoring their execution. In this work we present results collected during a feasibility study, that aims to apply BPM concepts to a legal domain: decision and enforcement of preliminary injunctions.

**Keywords.** BPMS, business process, criminal justice, preliminary injunctions

## 1. Introduction

This short paper describes an on-going feasibility study, namely **GIUDEM**, that concerns how business process management tools can support the execution of preliminary injunctions. GIUDEM involved the Public Prosecutor's (PP) office located in the city of Asti, Italy, as stakeholder and domain expert; three IT companies (SSB Progetti, Nomotika and Augeos) and the Department of Computer Science, University of Turin, as analysts and IT specialists. The objective is an evaluation of how Business Process Management Systems (BPMS, [3]) can be fruitfully used to legal domains, especially in designing and managing processes that PP offices are in charge to execute in criminal procedures.

The separation of criminal and civil justice in Italy has generated a different degree of digitalization of procedures and dematerialization, leaving criminal justice in a state of severe lack of norms that explicitly foresee and encourage a recourse to information technology. Thus, in recent years, the undoubtedly successful experience of Telematic Civil Process[6] led to ask when and how it can be applied to the criminal procedure, a more difficult field, where still some advancement are recognizable (e.g. the introduction in recent years of SICP, Sistema Informativo per la Cognizione Penale). People working in the penal justice field present a natural, stronger resistance to disruptive innovation and automation, due to the delicate subject they treat: modification of individual rights and freedom. On the other side, different criminal law procedures present a consistent degree of isolation from each other, paving the way for experimental, ad-hoc digitaliza-

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tion; a trend that in recent years appear often in normative acts, like [1]<sup>1</sup>. An interesting scenario is the so-called "Preliminary Injunctions"[2]: suspects can be restricted in the application of their individual freedoms. PP offices are in charge for deciding about and enforcing such injunctions. This activity is jointly conducted by the PP office and the Court, in particular in the person of the Judge for Preliminary Investigations (*Giudice per le Indagini Preliminari*: GIP). GIUDEM project provides a real-world feedback from stakeholders, so to analyze pros and cons in moving toward a process-centric, formally defined and digitalized approach to handle legal use-cases. Specifically, its aim is to test how much BPMS are suitable for providing such support in the preliminary injunctions case, a test-case we plan to generalize to cover different penal processes and activities.

Application of preliminary injunctions (e.g. the "pre-trial detention") is a very sensitive matter, for different reasons. First, the suspect is restricted in their freedoms, despite she has not been found guilty yet; nevertheless, the judge decides for such restrictions based on the presence of "precautionary requirements"<sup>2</sup> and "serious indications of culpability"<sup>3</sup>. Second, PP office and GIP are both responsible for monitoring starting dates and durations of preliminary injunctions. Defective or lack of monitoring deadlines established by norms causes an irreparable loss of suspect's rights, and it generates disciplinary measures and sanctions to both PP office and GIP. These issues and the "isolation" of preliminary injunction proceedings constitute an interesting context for defining digitalization methodologies and procedures. During the study, we borrowed concepts, tools and techniques from the Business Process Management field (BPM), as we briefly illustrate in the next sections. The reason is that BPMS are widely recognized as fundamental components of the IT infrastructure supporting middle-large organization, thanks to their capacity of providing easy-to-read models of how the organization works, and to the capability of enacting these business processes, supporting and monitoring their execution. Preliminary results of GIUDEM suggest that adopted tools and techniques enable a more formally defined modeling of high-sensitivity use cases, and support stakeholders in not infringing strict norms, like, for example, temporal constraints on performing activities. When moving from a feasibility study to a real implementation, we foresee a number of potential barriers, like the very choice of the BPMS, that can have a strong impact for its cost and the availability of required functionalities, and the resistance of stakeholders, which naturally stick to already established office practices. Nevertheless, positive feedbacks of stakeholders represent a clear evidence of the feasibility of adopting BPM in this kind of scenario.

## 2. Modeling Preliminary Injunctions

The process of preliminary injunctions has strict, formal details that have to be fulfilled.

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<sup>1</sup> Ministry of Justice, Directive of December 11th, 2014: the infrastructure for digital notification and penal communications is turned on.

<sup>2</sup>The current Italian Criminal Procedure Code establishes that one or more "precautionary requirements" must be detected, in order to apply a preliminary measure. The article 274 identifies three different requirements: i) *evidence tampering*: if the suspect is able to alter, destroy or falsify evidences; ii) *risk of escape* of the suspect; iii) *repetition of the offenses*, to prevent the continuation or repetition of the offense or the commission of another offense.

<sup>3</sup>Critical and indirect tests from which one can logically suppose the existence of culpability (*i.e.* Tom was found with a bloody knife nearby of the place where Jack was stabbed).

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Let us synthesize, for the sake of brevity, how preliminary injunctions are issued. PP requests to GIP to enforce one or more preliminary injunctions to a suspect. GIP can decide to reject, modify or accept the proposal, therefore producing an executive order for the enforcement of the injunctions. The PP is in charge for the effective execution of the order; thus, he commands Criminal Investigation Department to enforce the injunctions. Starting from this moment, GIP is obliged to interrogate the suspect within 5 or 10 days (depending from the kind of preliminary injunction), and to decide, after that, whether the injunctions are confirmed or revoked. During the period of the injunction, modification events can occur, causing a suspension, a change in duration or a change in the type of injunction. Once the duration is over, GIP has to produce a specific document to certify the end of the injunction. A first, mandatory requisite is the modeling of temporal constraints, duration and timings, to support operators in fulfilling tasks within the devised timing. The system is required to remind, via email or text messages, when an injunction is expiring, which is the suspect, what it has to be done. The consequences of not respecting deadlines could jeopardize investigations, infringe the suspect's rights, and/or produce sanctions for operators that did not meet the deadline. Another fundamental requisite regards paper documents and, in wider terms, management of data. We chosen Bonita BPM[5] as BPMS, preferring a process-centric approach over a document-centric one (as, for example, Alfresco[4]). Stakeholders needed means to understand the model even without a technical background, to receive support in their task and reminders for their deadlines, the capability of supervising all ongoing processes and if there are bottlenecks. Such *desiderata* called for a focus on the process, more than on documents produced executing an instance of it; thus, we preferred a BPMS. Most documents (those that do not perform a change in someone's legal status or without an intrinsic, normative value) are nothing more than containers for *business data*, that can be virtualized modeling the process by means of email, digital signed electronic documents and PDF produced on the fly. This represent one of the big challenges of the project: *dematerialization of paper documents as much as possible in a high-sensitive domain*. During the modeling process, we shaped a business data model, comprising suspect data, PP and GIP data, preliminary injunctions requested, motivations and such like. Those data are collected during the process, and stakeholders can produce a printer-friendly version of the same documents as in the non-informatized process. After the analysis phase, next step is producing a model and implementing a running, preliminary prototype.

### 3. Implementing the prototype

Platform we chosen for modeling and implementing the process is Bonita. Various reasons led to this decision. It is a powerful, complete BPMS free-of-charge suits that perfectly to a feasibility project, where the goal is to evaluate what are the benefits and how much can be expensive the adoption of such tools. It adopts the standard Business Process Modeling Notation (BPMN) for depicting business diagrams. BPMN is a semi-formal graphical language, equipped with a set of primitive designer can use to draw a process diagram as a connected graph, building it in a WYSIWYG environment. BPMN allows even non-technical stakeholders to easily understand and reason about the flow that represents how tasks have to be performed, who has to perform which task, if there are temporal constraints and which are expected outcomes. Bonita offers a graphical

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Eclipse-based environment to model process diagrams with BPMN. Last, but maybe the most important reason: Bonita maintains a repository of processes, and each process can be *deployed* as a web application; therefore, besides a graphical representation and the possibility of executing performance simulation, Bonita enables a real implementation of the process, assisting stakeholders in performing tasks they are assigned to perform. This peculiarity of Bonita greatly reduces implementation efforts and simplifies the feedback-modification roundtrip among stakeholders and IT specialists. In GIUDEM we leveraged this feature to quickly build a prototype and to test how stakeholders would feel in using Bonita for executing and monitoring the process. Bonita provides for free an administrative dashboard, where users can check, for each of the active processes, in which task of the flow it is arrived, who is required to perform an action next, and so on.

#### 4. Preliminary results and Conclusions

Italian justice suffers from an excessive duration of trials, that can require years to proceed through the three degrees of judgment. Digitalization and engineering of procedures have proven to be a promising approach to speed up processes and avoid mistakes that can engulf the process itself. The study of feasibility we presented aims at highlighting how IT can effectively help in optimizing offices and support lawyers, judges and legal experts. The analysis phase of GIUDEM pointed as main requisites 1) a real-time, centralized monitoring of deadlines and active instances; 2) the management of business data in a shared environment, easily accessible by actors; and 3) a centralized flow-based information control center. As preliminary results, stakeholders (mainly GIP and PP office) have proven to be very interested in being supported by IT methodologies and tools; in particular, stakeholders have easily understood the BPMN model of the process, providing feedback directly on the running prototype. In fact, the rapid prototyping enabled by Bonita granted an immediate feedback from stakeholders and a continuous revision of the model. Adoption of graphical languages that directly link a workflow-like representation of the system and its implementation has proved to be a promising direction to follow, even if the context calls for a precise analysis of processes that need to be compliant to normative, strict constraints, especially for what concerns the exchange of formal documentation.

#### References

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