Developing an Effective EU Grant Management and Monitoring System

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Abstract
Obtaining grant money from the European Union and implementation of grant funded projects is a long and difficult process due to complex rules for applying and reporting. The core reasons for such state are lack of systematic and comprehensive approach to programming rules on EU level, lack of knowledge management system and an inefficient reporting system based on periodic reports. The problems related with grant funded projects are well researched and documented, as is shown in literature review. Many solutions exist but none of them tackle the core problems and thus remain partial, either in methodology or geo-political sense. We propose a solution comprising three components – developed methodology and procedures, continuous support and knowledge management and IT component of the solution. The IT solution has been tested and test results are presented.

Keywords: EU grants, financial reporting, monitoring, IT system, project management

1 Introduction
To translate the EU policies into practice, the EC has two possibilities. One is legislation and the other is to give out grant programmes (Zajc et al. 2011). To achieve these very broad objectives the EU established various funding programmes in order to achieve the objectives of the policies. Similar to policies, each programme also has its own set of more specific objectives. To achieve these programme objectives, different calls for proposals are published, which have even more specific objectives. Project proposals apply to these calls with solutions, which will help achieve the objectives the policy set out in the first place. In other words, grants are a way of achieving the (political objectives).

Grants are direct payments of non-profit nature, aimed at achieving the political objectives of the Contracting Authority. They are usually given to implement a project.
The organisation giving out grants is called a **Contracting Authority**. They are in charge of preparation of work programme, or a particular call for proposals, of selection of the best projects and finally in charge of concluding the financial contract with the successful project proposer.

The organisation receiving grants for implementing a project is called **Final Beneficiary (FB)**. These can be small and medium enterprises, research organisations, state institutions, non-government organisations, municipalities, regions etc. All Final Beneficiaries are required to submit financial reports on the project to the Contracting Authority in the process called monitoring. This allows the Contracting Authority to check whether the funds have been used in accordance with the agreed-upon objectives, activities and budget, it informs the Contracting Authority about the project progress and it provides them with the information for determining the final amount of EU’s contribution to the project.

*Evaluation* is the systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results OECD (2002). The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability.

*Monitoring* is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds OECD (2002).

## 2 Problems in reporting and monitoring

The way to money from the European Union can sometimes be very long and full of obstacles (Ukmar 2008). In this section we explore the main reasons of difficulties in administrative and financial reporting, preparation of correct project documentation, monitoring and evaluation and audit of the EU projects.

The main difficulties in obtaining EU money usually concern complex and rigid legislation, inappropriate public calls, inefficient national public sectors, often too complicated documentation procedures and lack of time and qualified personnel for enterprises (Ukmar 2008).

### 2.1 Administrative and financial reports

The main problems at the stage of preparing administrative reports concern correct filling-in forms, preparation of correct and transparent budget and consideration of time limitations (Ukmar 2008).

Vidović et. al. (2010) produced a report about measuring administrative costs in Cohesion Fund projects. In the report they established 12 information obligations (IO) for business subjects and non-government organisations and 91 information obligations for public institutions. They also established 74 administrative activities in connection to the IOs. The most burdening administrative activities were found to be: *Preparation of necessary information from existing data*, *Formatting existing data*, *Copying and distributing information* and the most burdening type was *Reporting and submitting information*. The most burdening IOs were found to be *IO-7a: The Final Beneficiary sends demands for reimbursement of ERDF subsidy to the Contracting Authority*,

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266
Developing an Effective EU Grant Management and Monitoring System

followed by IO-7b: *The Final Beneficiary sends demands for reimbursement of ESF subsidy to the Contracting Authority*. The authors recommend focusing on solutions that include eliminating printed reporting.

At the financial level the main problems may involve clear cost definition, overestimation of costs and overpayments, inter-departmental or inter-company trading, transactions with related parties (as subcontractors), repayments, cash flow, double-funding and combination of different financial sources (Ukmar 2008). Common cost calculation errors in ESF projects include (European Social Fund, 2004):

- using a budgeted or estimated overhead rate rather than the actual rate incurred;
- basing the hourly cost of overhead on timetabled hours instead of actual training hours;
- notional or estimated charges (e.g. 5-10%) being included as a central administration charge;
- including ineligible items of overhead specifically not allowed by the guidelines, e.g. bank interest charges;
- notional rent/rates. i.e. where rent is included as a charge in the claim but there is no actual payment; and
- inclusion of ineligible opportunity costs

2.2 Project documentation

Errors often appear at the stage of preparing correct project documentation, and nonetheless at the level of project implementation (Ukmar, 2008). Some of the most common mistakes involve too vague or unclear objectives, which require subsequent reformulation, and lack of effectiveness in multi-annual programs. According to the European Commission, the most common errors are missing documents, disrespect of eligibility criteria or other conditions and wrong tendering procedures. Vučina Vršnak (2007) shows some examples of complicated public call documentations. Her first conclusion is that all the involved institutions are responsible for contents of calls and that some past political decisions produced the state we are in today (great number of different actors with different interests and viewpoints, leading to complex procedures). Her second conclusion is that call documentation is often too complicated, thus generating problems for both the institutions as well as for potential applicants.

Slovenian businessmen emphasize that there is too much administrative work in applying to calls and reporting, which can turn companies off from applying. Procedures have to be simplified, while call preparation and proposal evaluation have to be transparent and clear. The businessmen suggested the Minister Ivan Žagar to establish a special e-portal with all the necessary tools for applying for projects and monitoring them (GZS 2008).

2.3 Monitoring and evaluation of projects

At the monitoring and evaluation level, the main difficulties are evaluation limited in scope (and failing to address whether key objectives have been met), insufficient data analysis and time pressures in the evaluation process. Additional difficulties include the
classification of appropriate quantitative objectives, definition of appropriate result indexes and difficulties concerning data collection (Ukmar 2008). European Commision (2010) also recognises the prerequisites for attractiveness and accessibility as clarity of objectives and instruments, an overall participant orientation of the initiatives and their implementation, consistency and stability of rules and conditions and lightness and speed of administrative procedures and processes, from application, over reporting, to auditing. Their solution is structured into three main strands: a first strand with the improvements and simplifications that the Commission will implement under the current legal and regulatory framework (short term), a second strand with changes to the rules but still under the current cost-based model, and a third strand suggesting more far-reaching changes towards a result-based funding using lump sums.

Need for near real-time information is gaining more recognition. One of the examples is provided by the Belgian Walloon region (Ukmar 2008). They established an electronic monitoring system which enables Commission staff, the operators on the ground and the authorities directly responsible to be informed rapidly about progress on all projects involving the Structural Funds. The various partners can consult a data base on line to see what progress has been made on the physical and financial implementation of projects, via internet access to the website of the Ministry of the Walloon Region.

3 State-of-the-art

The current state of technology and solutions in the project field is based on organic growth of technological and methodological procedures, which have been developed on the bases of experiences and corrections as well as by adding the good and bad practices of individual member states. The system is intertwined with transferring good and bad practices between different states and systems and then moulded through specific solutions, which the individual states have brought with them through history. Therefore the system is extremely complex, difficult to control, based on longwinded and patched IT solutions. During this process, the people and internal organisations have been constantly changing – now the result in individual member state is an average situation, which is difficult to control and presents a complex environment with many artefacts, for which it is unclear why they are there for and which nobody dares to cease. The information systems are put together from different independent modules, which are, in best cases, connected with data exchange and complex protocols who, to whom, what and when. As such, these systems are very difficult to maintain. The individual member states are developing their own IT solutions. These hardly become fully functional, because the system of setting up the rules and interpretations is broken up in number of organs and levels, which are most often not coherent. This kind of system is being transferred to new member states through »best« practice transfer during the process of accession negotiations and during the process of setting up capacities for management of decentralised funds. This, for the new member statutes, means introducing a system, which is the source of additional difficulties when assuring the absorption capacities for utilising structural funds after the EU accession - especially in a sense of preparing calls for proposals as well as the control over the project and utilisation of funds.

Grants.gov is the USA Federal Government’s single site for federal grants with a mission to provide a common website to simplify competitive discretionary grants management and eliminate redundancies (HHS 2012). The Department of Health and
Developing an Effective EU Grant Management and Monitoring System

Human Services is the managing partner for the Grants.gov initiative, one of the 24 E-Gov initiatives generated in response to The President’s 2002 Fiscal Year Management Agenda to Improve Government Services to the Public. It simplifies the grants management process while creating a centralized, online process to find and apply for over 1,000 grant programmes from the 26 Federal grant-making agencies. It provides services for both Final Beneficiaries (search for grant opportunities, downloading application packages, completing application packages online or offline, submitting completed application packages and tracking the status of submitted applications) as well as for managing authorities (unified federal form system, posting grant opportunities, posting related application packages, retrieving application packages, assigning tracking numbers).

GrantSolutions is a comprehensive grants management system provided by the Grants Center of Excellence (Grants COE 2011). The system is available to all USA Federal grant-making agencies as part of the Grants Management Line of Business (GMLoB) initiative. It services all types of grants (service, training, demonstration, social research, and cooperative agreements) across all grant categories (discretionary, formula, block, and entitlement). Services cover the full lifecycle of the grants management business which includes the following:

- Full life-cycle processing (pre-award through post-award) for all types of grants
- Funds control integration with financial systems, financial reports, audit tracking
- Flexible mechanisms for program-specific needs and performance reports
- Standard system interfaces to Grants.gov and other external systems

Microsoft Grant Manager (Microsoft 2011) allows managing authorities to manage full life cycle of a grant, including online grant applications, reviewer scheduling, award information, post award reporting and communication with applicants and Final Beneficiaries. It was developed for Microsoft by InfoStrat and TrueTandem. The system is customizable and needs to be tailored to individual agency’s grant processes. It integrates with legacy applications, incorporates a cloud-based website for grant applicants to interact with their agencies and gives managing authorities instant access to status and issues of each grant. The Microsoft Grants Manager is built on the Microsoft Dynamics GP technology.

AwardVision (Serenic Software, 2007) is another grant management software built on Microsoft Dynamics technology. It is created for Final Beneficiaries and it integrates with another Serenic Software product – Serenic Navigator, an accounting tool for non-profit organisations. AwardVision enables tracking costs, provides analyses, converts currencies etc. Both AwardVision and Microsoft Grant Management are focused mainly on USA.

CC Grant Tracker (CC Technology 2012) is a web application for managing the grant cycle process from the first time applications to the management of payments. It is focused on charity organisations who award grants and is not designed for organisations who apply for and receive grants, although they are preparing that side of the program in the future.
ISARR is Slovenian state information system for supporting implementation of development programmes of European Cohesion Policy (SVLR, 2008). SVLR intended to implement support to the processes of programming, implementing and monitoring development programmes and projects, instruments and operations and enable EU funds absorption. It comprises 10 applications/modules and is also used in neighbouring countries (Austria, Croatia, Hungary) for Cross-border Cooperation projects. It has been difficulties lately due to lack of future development methodology, incorrect data preparation for export to Financial Ministry system, lack of technical documentation, and lack of data-protection policy, as was determined by the Slovenian Court of Auditors (Čeh, 2011).

Supervizor is Slovenian web application for monitoring spending of public institutions (KPK, 2011). It provides the public, the media, experts and state institutions with an insight into public institution spending on goods and services. Its key mission is “strengthening the rule of law, integrity and transparency, eliminating corruption-related risks and conflicts of interest.”

After looking through all the existing solutions, we have come to the following conclusions:
1. No standard has been developed, which would be the base for coherent and standardised procedures when dealing with call for application processes, awarding and monitoring the grants
2. There is no fully functional and compatible IT supported system for call for application processes, awarding and monitoring the grants
3. There are no methodological instruments for training the personnel when preparing call for proposals and evaluating the applications. There are no standardised instruments for training the personnel who prepare calls for proposals and financial officers, who monitor the funds.
All the mentioned factors result in dispersion and diversification of calls for proposals, thus suppressing the positive effects of grants because of the time limitations and red tape.

4 Our solution

Our research shows that the current system has an inbuilt tendency towards increased administrative complexity, and constant investment of great amounts of energy is required to keep things at bay.
The reasons for the current state of affairs are the following:
- Underdeveloped systems of knowledge management in Contracting Authority agencies
- High workforce fluctuation of controllers and contract managers
- Mentorship is stopped after the twinning in pre-accession aid phase which greatly reduces the effect of transferred know-how
- Highly qualified staff in public institutions tend to climb the hierarchy ladder within the institution or move to private sector, resulting in loss of knowledge due to lack of knowledge management
Developing an Effective EU Grant Management and Monitoring System

- Lack of interdisciplinary knowledge of grant funding in Contracting Authority agencies
- Lack of cooperation among different ministries, agencies etc. hinders knowledge transfer through the system
- The approach to the whole process from programming, over calls, project selections, reporting and controls is not comprehensive or systematic

Based on documentation revisions we have performed and based on our previous research we conclude that the real causes are not generally understood. The proposed solutions are therefore only partial and with limited effect.

4.1 iPASS© - our system for increasing the efficiency of EU grant funded projects

In the following section we will present our solution, its components and steps of implementation. As it is a multi-component solution, main emphasis will be given to the IT component of the solution. iPASS© is a methodological instrument to set up standard procedures of monitoring and evaluation for EU grant funds. It is a system composed of methodologies, processes and procedures which need to be established in order to enable:

- Efficient and transparent system of monitoring and evaluation of EU funds drawing/disbursement,
- trained personnel in managing authorities for monitoring and evaluation,
- clear rules and standards,
- trained personnel in the final recipients for preparation, implementation, reporting and cost reporting in line with EU regulations and
- lowered actual and opportunity costs for both Contracting Authority and Final Beneficiaries.

All the presented research was co-financed from various EU and Slovene grant funds, confirming that all evaluators believe that the unsolved problems in using IT technology for EU grants management exist, that our proposed solutions are innovative in the EU market and that the proposed solutions have a large economic impact at EU level.

4.2 Motivation and initial work

Based on our previous research in the field of grant funding we have developed the following working hypothesis: “An important obstacle in the process of shortening and simplifying the procedures is complexity of existing systems. The reasons for the system’s complexity are mostly not in the complexity of the basic EU rules for funds management but rather in the lack of comprehensive procedures in individual Member States implementation agencies”. The consequence is inconsistent preparation of technical and financial part of project calls, non-unified reporting system and rules interpretation and great number of errors and requests for additional documentation that occur during the implementation of calls.
Our goals were:
1. Developing the possibilities and technological tools for standardization of administrative and financial component of project applications, reporting and controls in grant funded projects.
2. Developing IT tools for monitoring, management and evaluation in grant funded projects.

During our research, we found that issues connected to managing and monitoring structural and IPA funds are nothing new and their causes, consequences and problems are similar everywhere (EU, USA, Australia). Rules for management and financial controls are also the same or very similar in more than 90% of cases. The second interesting finding is that EU doesn’t address the problem systematically but rather partially without fundamental research into the deeper principles. Many decisions cannot be traced to relevant expert opinions which would serve as a foundation. Unlike the EU, the situation in the USA is different and there exist studies that address the issue on the system level and show a deeper understanding of underlying processes and contradictions in the field of grant funding. The solutions they consider and propose are very similar to the solutions which are the basis for the iPASS© project (Conlan 2005).

4.3 iPASS© implementation

The complete implementation of iPASS© project is threefold and should ideally be performed through the three pillars of services as shown in the Figure 1.

![Implementation of an effective system for call for application processes, awarding and monitoring grants](image)

**Figure 1: The three components of iPASS©**

In the *methodological frame* methodological instruments, such as handbooks, guidebooks, recommendations, model document and solution examples are implemented and used. Continued education and training is taking place at various levels: expert level, operational and implementation level and monitoring and audit level. Continuous knowledge access to the library and knowledge base is provided. The *second pillar* continued knowledge access is provided and specific, concrete solutions are provided. External quality monitoring is in place and direct consulting during the implementation process is provided.
Informatization is implementation and usage of the iPASS© IT component. It includes localization of the information system, preparation of specific analyses and processing, training internal IT expert, direct first and second level support.

4.4 iPASS© IT component

Our research results indicate that besides implementing changes in the methodology of programming, monitoring and reporting, a comprehensive IT solution which would cover the entire granting process is necessary for both Contracting Authority and Final Beneficiaries. The process can be described as two parallel cycles – programme cycle for the Contracting Authority and project cycle for Final Beneficiaries. The process cycles are shown in Figure 2

![Figure 2: Side-by-side comparison of project and programme cycle](image)

We have developed a demonstration version of the necessary IT solution which unites and optimizes the two aforementioned cycles and proves that simple and efficient support to the whole process is possible, from the phase of call preparation, through application, project implementation, reporting, monitoring and evaluation. The basis for the IT system and the greatest innovation of the research is our methodological approach – we have have identified a common denominator of all European and national programme and call rules. We have then developed a set of universal rules that can be used to describe all existing calls on all programmes. This set of common rules developed in the methodological part of the research enables us to uniformly, concisely and precisely describe all possible calls and implement them into the IT system. Once this has been done, the whole process could be automated. Once the call is prepared, using the aforementioned rule set, the system automatically performs all formal and mathematical controls throughout the project and programme cycle, minimizing possibility of error.

The users of the system can be divided into two major groups which use two different parts of the system - Contracting Authority and Final Beneficiaries. All the data is stored on a central server and processed in real time, which reduces the pronounced workload spikes occurring during deadlines for project application and periodic reports submission, both on the CA and the FB side.
System workflow is shown in Figure 3. At the same time, this diagram is the main GUI screen in the demonstration iPASS© application. Left side of the diagram are the Final Beneficiaries’ tasks, while right side is the CA’s tasks.

Figure 3: iPASS© IT component workflow and GUI

4.5 Testing and results
Using the system we developed, we performed complete financial reports control under Article 13 of COMMISSION REGULATION (EC) No 1828/2006, which includes administrative, financial, technical and physical verifications of each expenditure declaration by the Contracting Authority, for 40 projects with 110 partners for the TIA (Slovenian Technology Agency) for the RIP09 call. We also tested the system for project applications, preparation of financial reports and performing change in plans for a project submitted to the public tender “Neposredne spodbude za raziskovalno razvojne dejavnosti v podjetjih - projekti 2008», by the JAPTI (Public Agency of the Republic of Slovenia for Entrepreneurship and Foreign Investments).

During the testing we established the following effects of our solution:
1. Since the Contracting Authority prescribes all the rules in the call preparation phase, the applicants are not able to make any formal mistakes applying for the call since the system automatically alerts them about the mistakes. This eliminates the need for consultants for interpreting call rules.
2. The applicants don't make any formal and computing errors which are presently the reason for denying some otherwise good projects. Automatic consistency of all tables is guaranteed.
3. Time of preparation and construction of technical and financial component of complex applications (such as those made using PRINCE2 methodology) is reduced by at least 5 working days for each applicant.
4. Contracting Authority has all the statistical data on expected number of applications already in the preparation phase.

5. During the evaluation phase of the project proposals the Contracting Authority automatically changes the status of individual proposals, enabling the applicants to track the evaluation progress (as well as enabling automatic information publishing, issuing decisions, preparing and sending out contracts, informing about evaluation reports etc.).

6. By signing the contract the project is automatically set-up, enabling automated reporting and monitoring without any need for manual corrections. Project partners are automatically sent their respective system passwords and they can start recording their daily work (through electronic timesheets) and their costs.

7. All the beneficiaries can track the project progress in real time, comparing planned to actual costs and time dynamics. The formal controls regarding accounting and consistency which are presently performed by the Contracting Authority are performed automatically for each partner. This saves the Final Beneficiaries at least 3 work days for each reports for each project partners during preparation of reports. It also saves the Contracting Authority at least 4 work hours for each report of each project partner.

8. Changes in project plan is controlled and automated and thus consistent. This saves the Final Beneficiaries 2 work days for each change in project plan. It also saves the Contracting Authority 3 hours for each such change, eliminating accounting and consistency controls.

9. Statistical real time data on the current project status is available at any time from the current, unofficial timesheets, enabling great savings in planning and monitoring on the state level compared to present situation in which planning and monitoring is performed based on periodic reports with already out-of-date data.

5 Conclusion

In this paper we explored problems that occur in the field of grant funding and we presented some of the reasons behind them. Our research shows that the main reasons for the current complexity of the system are lack of systematic and comprehensive approach and underdeveloped knowledge management and communication in Contracting Authority agencies.

Some solutions to the problems exist, but they are all partial solutions that don’t include deeper understanding of the system. Our solution is comprehensive in that it deals with the problem from its core. IT comprises methodologies and procedures we have developed that represent the least common denominator of all current European grant programmes, support and knowledge management plan and the IT component of the system. The IT component we have developed and tested stands to show that all major problems related to implementation of programming, rewarding, monitoring and evaluating EU grant funds can be solved with minimum amount of data entry, ensuring that every piece of information is entered only once and automating all the tasks that can be automated (that don’t require evaluation by human experts).

All our R&D activities on this subject from 2001 to 2010 were co-financed from public EU or national grants, which means that the EU recognizes the problem and is trying to
solve it. Furthermore, the continuity of the co-financed research tells us we are on the right track and gives us reasons for optimism regarding future system acceptance by the Contracting Authorities.
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- 2002 PHARE: experts in »Assessment and Audit of Administrative Capacity of CFCU and other PHARE Grant Schemes Implementing Agencies«
- 2005 - 2007 MVZT (Ministry of higher education, research and technology of Republic of Slovenia): R&D project »Development of internet application EFAMT Professional«
- 2007 - today: regular use of application in cloud from Final Beneficiaries of different EU grants funds (centralised and decentralised)
- 2007 -2008 EUREKA: R&D project »SUCCESS - Uniting Europe through cost management«
- 2009 - 2010 European Regional Development Fund (Structural Funds): R&D project »iPASS© - Development of methodological instruments and informational support technological tools for build standardized process for monitoring and evaluation for structural funds and instruments for EU pre-accession assistance«
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Developing an Effective EU Grant Management and Monitoring System
