

9th International Conference on Axiomatic Design – ICAD 2015

Integration of Holistic Non-Conformities Management and Axiomatic Design: a case study in Italian Income Tax Returns Management

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Abstract

In the last few years, the Italian Welfare State has suffered from the effects of the serious economic crisis. The crisis has hastened the need to cut down the public expenditures. The current study focuses on the improvement of the effectiveness, the efficiency and the inexpensiveness of those processes related to the management of the tax services provided by medium/large withholding agents. The proposed method aims to improve handling Non-Conformities in a process, by introducing a project plan based on the Axiomatic Design methodology. This method aids in producing a set of robust planning solutions for a wide range of issues. Starting from the reported issues emailed to the Customer Support Service of the process, it is possible to catalogue the encountered issues through an Holistic Non Conformity Reduction approach, so that introduces such a level of abstraction necessary to define Non-Conformities of process in a basic and logical way. Then, we turn to the Axiomatic Design methodology in an iterative way and we find the set of planning solutions, which are more logically suitable to the operating context. In practice, this allows innovative and sustainable clustering approaches, making the development of proactive lessons learned possible. These can be used both in the development and in debugging of the information systems supporting the process management, ensuring an enhanced robustness against the frequent changes related to legislative measures and the forecasts adopted.

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Peer-review under responsibility of the organizing committee of 9th International Conference on Axiomatic Design

Keywords: Holistic Non-Conformities Management; Public Administration; Tax Services; Customer Support.

1. Introduction

Over these years, the public administration sector has been hit by drastic cuts in available staffing due to various and successive spending review policies. It has often dealt with linear cuts that have indiscriminately affected all sectors, without the real issues being confronted, so that a proposal for innovative solutions. From one side, these allow to cut business costs and on the other side to increase the effectiveness and the efficacy of the public action. Thus, the most important challenge faced by the Italian Welfare State is to provide benefits with the service levels expected by the citizens and guaranteed by the Italian Constitution and at the same time substantially lower the cost of the public expenditures, above all in the lower-value sectors for the citizen. The adoption of new organizational approaches demonstrates that the abovementioned challenge may be possible. This article suggests an innovative approach aimed

at the Non-Conformities management optimization in order to produce the end-of-year income certifications (so called CU). All the withholding agents have the obligation to provide their taxpayers (employees, contractors, insured persons) an end-of-year single certification (CU), attesting amounts granted, deductions and all the other fiscal and personal information required by law. It is a declarative instrument of considerable importance for citizens since it is at the root of the fiscal audits made by the Revenue Agency itself. The Non-Conformities reduction related to this process therefore means to provide citizens with flawlessly income certifications, with no risk of future assessments and with tax deducted in a balanced way throughout the year. This will avoid that the citizens get final burdensome balances. To the withholding agents it means reducing the re-working and Customer Support costs in order to correct defective certifications, while to the Revenue Agency that means avoiding the issue of notices of payment to citizens and the 730 pre-compiled

forms, according to the recent tax reform [1]. The 730 pre-compiled is the Italian income tax returns, which is pre-compiled by the Revenue Agency on the basis of income certifications CU. The withholding agents must submit the CU certifications no later than February 28. The taxpayers are obliged to check their 730-precompiled. In case of lack of certain income information the taxpayers must adjust the 730 pre-compiled available on the website of the Revenue Agency, so that the statement is complete. Therefore, the tax law sanctions the withholding agents, which are defaulters [1]. In fact, the withholding agents must avoid from incurring a 100 euros sanction for each single CU certification submitted after February 28 or notified with mistakes compromising the correctness of the following 730 pre-compiled form. Therefore, it is essential to reduce the non-conformities process. So, the following paragraphs offer an innovative organizational approach that significantly reduces the number of non-conformity.

2. Planning ahead from Present

This article focuses on the management of Non-Conformities (NC) resulting from the issue of the CU income certifications reported by users. The first stage of the process is cataloguing those issues, usually reported by users' notices. For what concern medium and large-sized enterprises, the relationship with the customers is delegated to peripheral agencies, receiving complaints from customers, making first interventions and email the helpdesk the different issues. At this point, two objectives need to be pursued:

- 1) Promptly solve the reported problem;
- 2) Prevent that same problem will occur again in the future.

The taxation has an annual characterization.

About the second object the proactivity means that it is necessary to start planning that now for proactive measures that have to take into consideration what caused the different problems and the possible legislative changes that may arise in the meantime. Keep tracking of these problems let us formulate the functional requirements necessary to start up the campaign to produce the CU certifications for the following year. Therefore, in this article there is a dual approach based on the combination of an Holistic Non Conformity Reduction approach (HNCR) [2,3], in order to gain, catalogue and register Non-Conformities and Axiomatic Design (AD) for producing a set of robust planning solutions. Such approach allows defining a level of a sufficient abstraction so to identify non-conform clusters solvable by a single intervention. Moreover, taxation has an annual characterization. Every annuity has its specific version of non conformity. HNCR solves the non conformities related to different tax years. In fact, the Root Cause Analysis (RCA) solves the non conformities of a specific annuity. RCA does not provide any tools to solve non conformities for successive versions of the same problem. While, HNCR allows us to find solutions for different annuity. This means planning for proactive measures that have to take into consideration what

caused the different problems and the possible legislative changes that may arise in the meantime. Keep tracking of these problems let us formulate the functional requirements necessary to start up the campaign to produce the CU certifications for the following year. The second part of the article, however, focuses on the selection of the most appropriate corrective actions to resolve such problems in the future. For this use is made of a decision-making mechanism based on the logical principles of the AD. This approach allows to find the more robust solution. AD suggests that the best design solution achieves [4]:

- Maintain the independence of the functional requirements of design;
- Reduce the additional information required to make the system function designed.

2.1. Customer Users Support

The Customer Support to the End-users of the system is the main point of this dual mechanism. It deals with a real litmus test used to monitor the trend of the entire process. It is made up of two parts, the Front End, dealing with the activities run by the helpdesk agents on the applications troubleshooting and a Back Office, held in the Functional Assistance area. Notices are almost exclusively reported by email and not necessarily are about Non-Conformities of the process. They can be about simple information or ask for support in the use of the applications. All the reported notices are often in the business repositories, where they are classified by subject, status (open or closed), requesting user, resolving time and specific request. The body of the email is not a structured template but is a free text. The subject of the same email is not always mentioned so that the Front Office agents must read it carefully and they reply only in case of immediate resolution. Concerning particularly complex issues or when a new case occurs, the email is forwarded to the Back Office, taking care of troubleshooting it. In this case, the analysts follow an RCA (Root Cause Analysis) methodology pointing to the resolution of the reported problem. Notices can also be forwarded to other areas, in case of out of scope or if it is necessary you may ask for other areas cooperation. Also in this case, the Non-Conformity solution always follows an RCA approach. Finally, both categories of intervention are solved with a more structured approach for those representing a "weight" in terms of more relevant numbers of events and impact on citizen. The less impacting problems are faced when the event occurs or they are not resolved at all if the resolving cost is much higher than the expected benefit. Figure 1 illustrates the functioning of the assistance service. It also should be noted that the notices Repository is an electronic registry for tracking simple calls and emails, both requests and replies. It is not created to elaborate complex information to be used for a radical analysis of the Non-Conformities.

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