

Continuous Auditing and Control Scripting at Banca Popolare di Brescia: the case study of a bank in a SAP Environment

Miklos A. Vasarhelyi¹ and Paolo Voarino

Abstract

Banca Popolare di Brescia (BIPOP) is the fastest growing bank in Italy. BIPOP stock is listed in the top 30 index of the Milan Stock Exchange. BIPOP has taken the leadership among worldwide banking entities by moving towards continuous auditing². The bank bases its continuous auditing approach on a set of Intranet communication processes, which use controls, specified with SOLCO®, a microprocess specification and control definition methodology³. The control monitoring specifications are fed to a SAP data-warehouse to create a repository of information for transaction monitoring (CPAS⁴). This data repository is then linked to audit processes for immediate feedback to the assurance function. Also integrated into transaction monitoring are Key Performance Indicators (KPI) to link strategic objectives to transaction monitoring. Creating better risk management capabilities while providing tighter materiality thresholds the BIPOP approach uses advanced technologies to improve the efficiency of corporate processes.

Introduction

Banca Popolare di Brescia (BIPOP) is the fastest growing Italian bank, and its stock is listed in the top 30 index of the Milan Stock Exchange. BIPOP is by far, the major player in the Italian market of Internet Online Trading and consequently the leader in Internet applications to banking. Its management has an international approach to business and believes in tight cooperation with its partners and counterparts, both in the national and international environments. This cooperation is considered a condition of excellence, in particular on such matters as Internal Control System, where benchmarking for analytical review is essential. Therefore it has created a Web site (<http://www.bipop.it/ics>) in its Internet portal specifically dedicated to the Internal Control System issues (for admittance use paolo_voarino@bipop.it).

Because of BIPOP's extremely high growth and the changing economic environment, extraordinary measures to enhance its control system were necessary. BIPOP management's answer was to aim to take the leadership among world-wide banking on Internal Control System matters by moving towards: 360° risk management; internal auditing integration through the internal communication network (intranet); integration of SOLCO© language with ASAP (Accelerated SAP); and the adoption of continuous auditing processes. An overall view of the high level process can be seen in Figure 1.

¹ Respectively William Von Minden Professor of AIS, Rutgers University and Chief Auditor Banca Popolare di Brescia.

² CICA / AICPA, *Continuous Auditing*, Research Report, The Canadian Institute of Chartered Accountants, Toronto, Ontario, 1999.

³ A control identification and documentation methodology from TASK_A & Co.

⁴ M. A. Vasarhelyi and F.B. Halper, "The continuous audit of online systems", *Auditing: A Journal of Practice and Theory*, Vol. 10, No. 1, Spring 1991, 110-125.

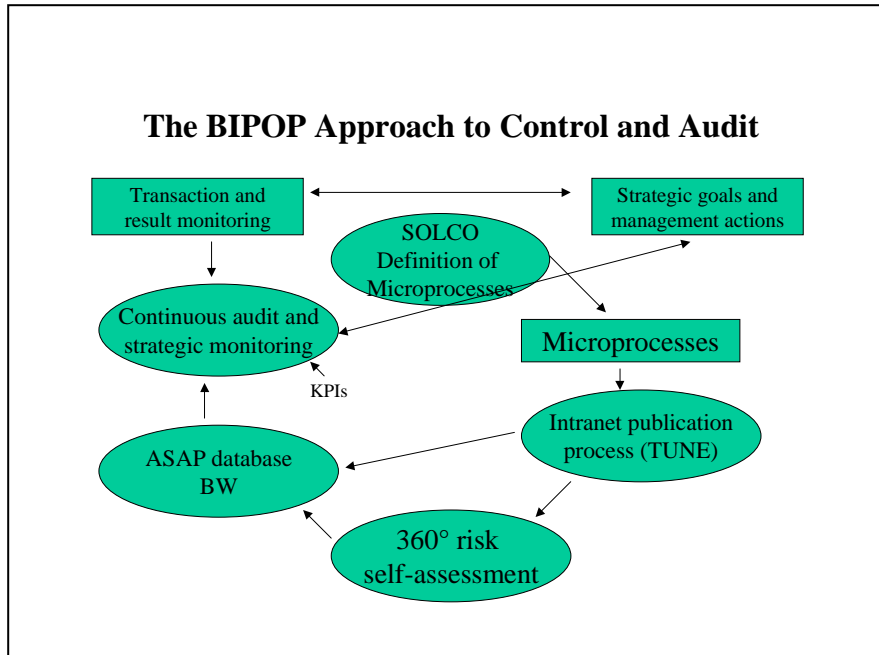


Figure 1: Overall process view

After opening a continuous channel of communication with Supervisory Authorities (Bank of Italy, Consob, UIC), a specific methodology of control based on Intranet publishing was developed. Internal rules in the form of microprocesses became the heart of the bank's internal communication (TUNE⁵). In order to reach excellence in operational risk management each process owner in the BIPOP Group assessed the ("360° process") risks associated to each microprocess, which maintain the same name and number throughout the Group (Architecture). This information was then made accessible⁶ both to end-users and Internal Auditor.

The Internal Auditing testing methodology was fully integrated with the above information by generating a bottom to top flow of the microprocess, starting from its final audit trail, and proceeding upwards (AREPO) from that point. The ensuing step in this method was an agreement with SAP to use the source information (database) of published hyper textual microprocess (TUNE) as a direct input to the ASAP (accelerated SAP implementation methodology aimed at rapid implementation and continuous improvement). It was also agreed to make a full use of ASAP integration of information as a work-flow add-on to be used first for explicit supporting documentation of Process Leaders' approval of SAP "blueprints" and later for end-users' education purposes.

As a consequence, BIPOP will achieve high efficiency (time and cost) in the development of the two parallel SAP projects (Data-Warehouse and ERP) and the need for external consultants will be limited to the certification of Internal Control System features in the 2 projects and to creative improvements of processes as defined in the SAP "Blue Prints".

The process of control formalisation, design, and implementation is accomplished through the extensive use of intranet hyper textual (http) communication of microprocesses including controls specified with

⁵ This formalization and representation of internal controls has been applied in many European banks and is in the vein of the proposed schemi of the TICOM work (A. D. Bailey Jr., G. L. Duke, J.H. Gerlach, C. E. Ko, R. D. Meservy, A.B. Whinston, "Ticom and the Analysis of Internal Controls," *The Accounting Review*, April 1985, Vol. 60, No. 2, pp. 186-201.)

⁶ The information is electronically published though an WWW intranet site and can be clicked as a button in the shortcut bar of TUNE.

SOLCO®. These controls associated with a 360° risk self-assessment are the logical basis of the Continuous Auditing project. The feedback obtained by the implementation of continuous auditing of the underlined processes and immediate impact on audits are substantial features on the improvement of corporate processes and transaction accuracy.

Continuous Auditing

All risks at BIPOP are quantified (probability estimate multiplied by potential damage) by an ongoing self assessment on its over 2000 microprocesses. These are called the formalised architecture (“Synoptic”) and are the backbone of the control performance and assessment process. Market and Credit risks are quantified using specific software applications. These will be soon substituted by SAP's fully integrated Risk module.

Each microprocess contains at least one control key with its related Audit Trail. The CPAS project analyses risks by control key. It starts from microprocesses with higher non-quantified risks, and defines best monitoring features within this general framework. These monitoring features are fed to the SAP data-warehouse (BW) to create a repository for data for transaction monitoring (CPAS) thus linked to microprocesses.

The SAP Data-Warehouse, “Business Warehouse” (BW), already includes foundations for over 100 Key Performance Indicators (KPIs), which will be reconciled to the microprocesses already linked to ASAP “Blue Prints”. This way, transaction monitoring will be linked to strategic monitoring.

The general control theory used at BIPOP and shared by many European Banks⁷ identifies 5 types of controls:

- **process controls**
- **line controls (first level)**
- **risk controls (second level)**
- **audit controls (third level)**
- **supervision and statutory authorities controls**

At BIPOP transaction monitoring and Market and Credit Risk monitoring are viewed as second level control definition, while KPIs will be extensively applied in Audit programming (third level). Supervision and statutory controls are an overlay on the first three levels.

Making Continuous Audit an Continuous Improvement Process

The implementation of TUNE, allowed BIPOP to identify what piece of information is *permanent* and therefore up-dates microprocesses and what piece of information is to be considered *volatile* and therefore must be edited in other forms. This allowed BIPOP to reach the next step in the sequence that raises that issue of actuality and continuation of the continuous auditing process. This places the following requirements:

- All organisational changes be communicated in TUNE,
- Control Keys on TUNE (and the related Audit trails) are permanently up-dated,
- Auditors using AREPO information (reverse TUNE) constantly refresh their methodology of inspection,

⁷ This framework of controls is similar to several taxonomies proposed in the literature. See Vasarhelyi, M.A., "A Taxonomization of Internal Controls and Errors for Audit Research," Proceedings of the Touche Ross University of Kansas Symposium on Auditing Problems, 1980.

- Continuous Audit modifies its parameters along with changes in microprocesses that cause modifications of risks (self-assessment).

Conclusions

Organisations are facing an increasingly complex technological environment, turbulent changes and a continuous push towards competitively low cost structures. Automated information processing and a networked society are creating an online / real-time world with increasingly complex processes and non-forgiving instantaneous transactions. This paper described an innovative corporate approach that integrates several major components associated to continuous auditing methodology: a methodology of control formalisation; an analytic examination of control structures; and the creation of an Enterprise Resource System's module for control and risk assessment. Furthermore, a strategic monitoring layer is being proposed that uses the existing processes to help in guiding the organisation to the achievement of its corporate objectives. The main aim of the BIPOP effort is simplification to keep cost low.