APPROVALWISE

MANAGING APPROVAL ASSETS: INTEGRATING SALES AND AUTHORITATIVE APPROVAL RECORDS

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EXECUTIVE SUMMARY

Approvalwise™ Manager is a comprehensive approval records management application that integrates the demands of sales and the safeguarding of approval assets with the efficient management of approval records.

With Approvalwise™ Manager, businesses gain the following key capabilities:

- **Quick 24/7 Access:** Access and retrieve approval records swiftly from anywhere, addressing the needs of both sales and customer service within minutes.
- **Enhanced Safeguard:** Safeguard approval records against unintended expiry, as well as data loss resulting from unauthorized alterations.
- **Authentication:** Verify the authenticity of third parties provided approval documents that are associated with the business.
- **Data Synergy**: Develop the foundation for joining approval data with other operational information to unlock the full potential of data-driven decision-making.

Approvalwise™ Manager is created in response to the reality that even though approval records stand as among a company's most prized information assets, they are frequently managed haphazardly, lacking adherence to established record management principles and adequate infrastructure.

Established principles and best practices in records management recognize that the quality of records is determined by their degree of authoritativeness.

Record authoritativeness necessitates:

- Metadata;
- a reliable, secure, compliant, comprehensive, and systematic records management system that aligns with business needs.

The three most significant limitations associated with ineffectual approval records management are:

- A lack of a centralized repository providing an up-to-date, definitive and comprehensive overview of a company's approvals;
- A lack of essential metadata about approval records;
- A lack of linkages of approval records and other business data.

Approvalwise™ Manager:

- enables the creation of a central registry of all approval assets, providing easy access to information relating to:
  - o the total inventory count and list of all approvals;
  - o a complete breakdown of approvals by types, jurisdictions and products;
  - o an account of all the documentations that make up each approval record.
- captures a set of essential approval related metadata, enabling:
  - o quick search and access of approval records
  - o prevention of data loss and corruption of approval records
  - o prevention of unintended expiry of approvals
  - o blockchain timestamps to verify the authenticity of approval documents
- establishes the foundation for approvals related data linkages and market intelligence gathering

An extensive array of data services are available as optional enhancements for Approvalwise™ Manager subscribers. These services empower subscribers to make a smooth and efficient transition from their existing approval records management to the Approvalwise™ Manager system, without diverting vital resources or attention from their core operations.

PART I: INTRODUCTION

Leading manufacturers invest significant amounts of resources to acquire approvals, a critical driver of sales. In various global jurisdictions, securing these approvals is often a prerequisite for market entry. Once acquired, these approvals become valuable records.

Approval records stand as among a company's most prized information assets. While records, in general, broadly support operational needs, approval records carry heightened evidentiary significance. They showcase a business' adherence to governmental or industry-set standards, signaling its integrity, excellence, and competitiveness.

Despite their value and the investment required to obtain them, approval records are frequently managed haphazardly, lacking adherence to established record management principles and adequate infrastructure.

Despite their value and the investment required to obtain them, approval records are frequently managed haphazardly, lacking adherence to established record management principles and adequate infrastructure. Ineffectual approval records management is a pervasive issue, affecting many businesses.

This whitepaper addresses the challenges associated with approval records management and proposes solutions, drawing from established record management principles and best practices. It employs a case study approach, using the fictional company *Generic Instrument* as a representative example, mirroring common practices observed across a broad spectrum of companies surveyed by Approvalwise™.

PART II: THE CASE OF *GENERIC INSTRUMENTS'* APPROVAL RECORDS MANAGEMENT

Meet John, an engineer at *Generic Instruments*, a fictional global manufacturing company. This company holds a substantial number of approvals, spanning various jurisdictions and types, enabling it to operate in international markets. Beyond obtaining these approvals, John and his colleagues in the approvals department are tasked with their ongoing management.

The approvals department relies on a central digital folder on the company's server for storing and organizing these crucial approvals. Although managed by the approvals department, this folder is accessible to other company personnel.

When a new approval is obtained, all supporting documents are meticulously stored within subfolders of the central digital approval folder. Some subfolders are categorized by approval type, while others are organized by product. Some approvals and their accompanying documents are duplicated in multiple subfolders, both by approval type and by product. Any PDF documents that don't neatly fit into these categories find a home in a miscellaneous subfolder.
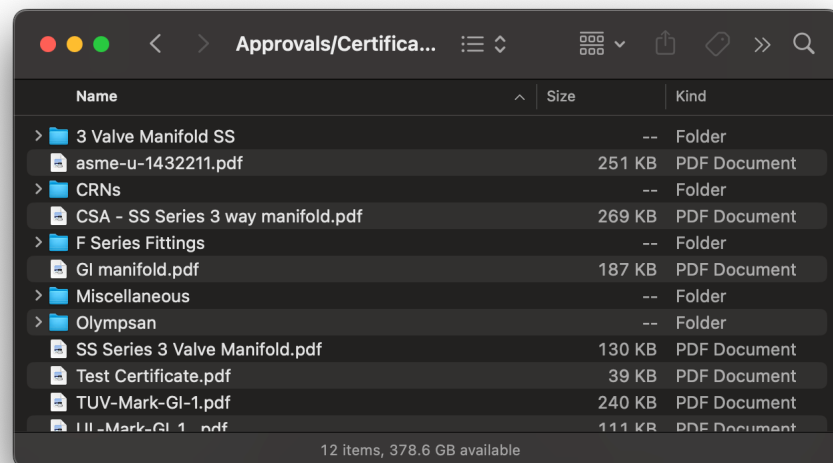
Generic Instruments' approvals folder has an inconsistent file and folder organization scheme with no consistent naming conventions.

To keep track of approval expirations, the approvals department manually schedules them on their digital calendar whenever a new approval arrives. The calendar is configured to issue two alerts, ensuring that the resident "expert" in the department of a given approval type is notified of impending expirations, prompting the renewal process. However, there was a past incident where a Canadian Registration Number (CRN) inadvertently expired due to the fact that a colleague who typically handles CRN was on extended sick leave. Once an approval expires, it's moved to an infrequently accessed archive folder.

Generic Instruments' website showcases some of the approvals it holds for its products. However, this list is not comprehensive. Consequently, John and his team frequently receive requests from the sales department to gather approval documents for inclusion in information packages for potential clients. When these requests arise, they embark on a search through the various subfolders. Typically, this search takes one to two business days, though it may extend based on the request's scope. For instance, if the request pertains to all approvals related to a

specific product within a particular jurisdiction, John and his team manually scour the relevant subfolders, relying on their knowledge of jurisdictional coverage for various approval types. To access specifics like approval validity or jurisdiction, they must manually open each file. If an approval record contains multiple supporting documents, there's no easy way to discern their contents and relationships without opening each individual document. Once located, these approval documents are shared via email as PDF attachments.

Operational efficiency reigns as the primary driver of the approvals department, regarded more as a cost center than a direct revenue contributor within *Generic Instruments.* The approvals they manage are isolated in their own data silo, perceived only as a matter of regulatory compliance. The department diligently manages its operating costs, striving to align them with or stay below budget. It prides itself on operating

> *The approval records are in a data silo, perceived only as a matter of regulatory compliance.*

efficiently and leanly, relying solely on the central digital approval folder on the company's server with no investment in additional technical infrastructure. They've organized this central folder to meet business requirements as best they can, developing conventions over time, such as practical approaches to naming digital files and folders. However, these conventions lack formal documentation, and there are no written guidelines or policies governing the approval records' lifecycle. The department has dispensed with these formalities to avoid rigidity and bureaucracy. Instead, it emphasizes getting the job done as simply and quickly as possible.

PART III: ESTABLISHED PRINCIPLES OF RECORDS MANAGEMENT

Assessing *Generic Instruments'* approval records management involves aligning with established principles and best practices in records management. ISO 15489-1:2016, *Information and Documentation—Records Management, Part 1: Concepts & Principles*, a widely recognized framework for designing effective records management, will guide our evaluation.

What Constitutes a Record?

A record encompasses not only its content but also its metadata, which captures the context, structure, administration, and usage of the record.

Authoritative Records

Records serve as evidence for meeting operational requirements within a business. The quality of records is determined by their degree of authoritativeness. Authoritative records are trustworthy when they exhibit authenticity, reliability, integrity, and usability:

- Authentic records are verifiable.
- Reliable records accurately represent facts.
- Records with integrity are complete, unaltered and maintained.
- Usable records are easily located and linked to business processes via metadata.

Requirements of Authoritativeness

Record Management

Record authoritativeness relies on a reliable, secure, compliant, comprehensive, and systematic records management system that aligns with business needs. This system covers the entire record lifecycle, including creation, access, storage, and disposal. Key components include metadata schemas, content-metadata relationships, as well as control measures ranging from version control, change history tracking, risk assessment, access rules and monitoring, designated responsibilities to regular audits. Through the development of these key components and their documentation in policies and procedures, the system should reliably capture, present, and protect records, while efficiently enabling intended import/export and disposition actions, as well as searches.

Record authoritativeness necessitates metadata and relies on comprehensive records management system aligned with business needs .

Metadata

Metadata plays a crucial role in establishing the authoritativeness of a record. Certain metadata associated with a record is established when the record is initially created or captured, and it remains unchanged. This type of metadata is referred to as 'point-of-capture metadata' for records. On the other hand, 'process metadata' encompasses information regarding actions taken on the record and other events that occur throughout its lifecycle. This process metadata gradually accumulates over time as the record is utilized and managed, serving to collectively document various aspects, including the record's provenance.

Authoritative records necessitate specific metadata that encompasses descriptions of:

- record content;
- record structure, encompassing form, format, and component relationships;
- the contextual backdrop—business, legal, and social—of record creation and utilization;
- connections with other records and associated metadata;
- identifiers and information needed to retrieve and present the record;
- record-related actions and events, including timestamps, nature, and responsible agents.

PART IV: ANALYZING *GENERIC INSTRUMENTS'* APPROVAL RECORDS MANAGEMENT

In this section of the whitepaper, we analyze *Generic Instruments'* approval records management approach before implementing Approwalwise™ Manager. Drawing from the well-established principles and practices of records management discussed earlier, we focus on four significant limitations tied to this approach.

A Lack of Central Repository

Despite *Generic Instrument*'s considerable number of approval assets, it lacks a centralized repository providing an up-to-date, definitive overview of its approvals. While the digital approval folder on the company servers serves as a central storage location, it falls short of functioning as a registry for easy access to critical information, including:

- A comprehensive inventory list of all *Generic Instrument*'s approval records.
- The total count of approval records.
- Detailed breakdowns by approval types, jurisdictions, and products.
- A complete documentation breakdown for each approval record.

Generic Instruments lacks a central repository and metadata for its approval records, and linkages of approval records with other operational data.

The absence of such an inventory list and count makes it challenging to audit approval records for loss prevention. Additionally, the difficulty in accounting for all documentations constituting an approval record exacerbates the risk of loss. This heightened risk threatens the integrity and reliability of *Generic Instruments'* approval records, exposing the company to increased business and legal risks.

Furthermore, the lack of a centralized repository hinders the usability of records. Detailed breakdowns of approval assets by type, jurisdiction, or product are currently unavailable, but they offer significant potential benefits by providing data that can be utilized to create effective sales and marketing strategies.

A Lack of Metadata

Another significant drawback in *Generic Instruments'* approval records management approach is the absence of essential metadata. Metadata takes various forms, including descriptive metadata, which provides valuable information about approvals and is typically captured at the point of creation. Structural metadata, also generated at this stage, outlines how an approval is organized. On the other hand, process metadata, such as usage metadata, accumulates over time through interactions with approval records. Unfortunately, *Generic Instruments* captures minimal metadata, primarily limited to filenames and attributes automatically collected by the operating system.

Descriptive and Structural Metadata

Consider the benefits of having descriptive metadata for approval records, including details like approval names, types, issuing agencies, jurisdictional coverage, issuance and expiration dates, and related standards. Without this information, record usability suffers, leading to inefficient searches. Users unfamiliar with file naming conventions must manually open each file to understand its content. Information such as approval validity, scope, or jurisdiction necessitates time-consuming manual processes.

Moreover, the absence of metadata prevents the extraction of valuable insights, another indicator of record usability. For example, Canadian Registration Numbers (CRNs) obtained in different provinces are currently isolated from one another. To comprehend how these approval records interconnect, descriptive metadata detailing approval types and jurisdictional scope is essential.

Similarly, the current approach falls short in providing information about the relationships between various approval document files, a critical consideration when approval records consist of multiple documents. Gaining insights into these relationships demands structural metadata that outlines all the documents and document types comprising an approval. This missing metadata significantly hinders *Generic Instrument*'s ability to effectively and efficiently manage its approval records.

Usage Metadata

The absence of usage metadata, coupled with the lack of control measures like version control, change history tracking, and documented access and permission rules, significantly undermines the reliability and integrity of *Generic Instruments'* approval records. Currently, the central digital approval folder is accessible to all company employees without any role-based access controls in place. This means that everyone has full editing privileges, including the ability to add, modify, move, archive, or delete records. Furthermore, there is no system for detecting and monitoring unintended or unauthorized modifications to approval records. The absence of audit trails detailing modifications, who made them, and their purpose exacerbates this issue. Additionally, the absence of version control means that older approval record versions are overwritten by the most recent ones.

Collectively, these missing measures substantially heighten the risk of data loss and corruption due to unintended or unauthorized alterations, thereby jeopardizing the reliability and integrity of the approval records. For instance, a common scenario for data loss is accidental file deletion. Another example involves data corruption, such as someone unintentionally deleting a page from a PDF file and saving it, rendering the deleted page irretrievable except from server backups. However, such recovery would only occur if the unintentional deletion is detected. Data loss could also occur indirectly through a loss of access resulting from unauthorized or uncoordinated changes in a file's naming structure. These risks underscore the pressing need for more robust control practices and usage metadata collection within *Generic Instrument'*s approval records management.

Moreover, the absence of logs capturing information on who has shared approval records with external parties and for what purpose exposes *Generic Instruments* to other business risks. This lack of visibility means the company cannot readily identify if an employee has inappropriately accessed, copied, and shared an approval record with an external entity without manually inspecting the sent folders of all employee emails. Furthermore, the company remains unaware if an employee shared the record externally without using the company's email system.

Another concern arising from this approach pertains to the authenticity, reliability, and integrity of external copies of *Generic Instruments'* approvals, particularly when these copies proliferate. It becomes challenging for the company to verify the authenticity of such copies, given two key limitations: a) its inability to monitor unauthorized access to approval records, and b) the difficulty in identifying the "original" record of an approval against which

subsequent copies can be validated, especially in the absence of version controls. This presents a potential risk to the trustworthiness of externally circulating approval records.

Lack of Linkages to Other Data

At present, approval records exist in a silo separate from other data relating to *Generic Instruments'* operation. While some approvals are mentioned on *Generic Instruments'* website, these highlighted approvals do not encompass all the approvals that each product has received. Achieving a more comprehensive coverage of approvals on its website necessitates a systematic effort to establish connections between the company's approval and product records. But this requires the development of a comprehensive approval records database—a key infrastructure missing from *Generic Instruments.*

Lack of An Integrative Orientation

The case of the approvals department at *Generic Instruments* highlights a lack of integration between the objectives of the department and the overall objectives of the company, stemming from an orientation that is unduly compartmental and cost-centric. Here are some key observations:

- *Lack of Integration*: The approvals department operates within a silo, primarily focusing on compliance and regulatory aspects. There's a noticeable gap in integrating approval processes with other business functions, such as sales and customer service. This lack of integration can hinder the company's ability to respond to market demands quickly.
- *Cost-Centric Focus:* While cost control is essential, the approvals department fails to factor in the potential revenue-generating aspects of their work. It fails to recognize that streamlining approval records management processes and making approval documents more easily accessible to sales can directly contribute to revenue growth. Additionally, this cost-centric focus also creates significant inefficiencies and compliance risks for the company due to errors and omissions.
    - *Inefficiencies in Customer Response:* Fulfilling customer requests for approval documents through manual look-up and searches in the central approval digital folder is inefficient and can result in delays. Improved accessibility and search capabilities can enhance the collaboration between sales and approvals departments, which in turn can enhance the company's responsiveness towards customers. In addition, implementing a customer-facing portal or database for

accessing approved documents can further improve customer service and satisfaction.

- o *Compliance Risks:* The incident where a Canadian Registration Number expired due to a colleague's sick leave highlights compliance risks. A more robust approval tracking system with automated alerts and reminders can help prevent such incidents in the future.

- o *Informal Conventions:* While the department has developed practical naming conventions over time, the lack of formal documentation and guidelines can lead to inconsistencies and potential confusion among team members. Formalizing these conventions and documenting best practices would not inevitably lead to rigidity and bureaucracy, but can instead improve consistency and efficiency.

- ▪ *Investment in Technology:* Considering the department's reliance on a central digital folder, it may be prudent to explore approval records management software that can improve access and search functionality, enhance customer experience, and collaboration with other departments, including sales. Such an investment has the potential to expand the company's capacity for data-driven decision-making, positioning it advantageously to derive insights at the intersection of sales and approval processes, thereby gaining a competitive edge.

PART V: THE APPROVALWISE[TM] SOLUTIONS

Approvalwise[TM] Inc. specializes in providing solutions designed to assist companies encountering challenges similar to those of *Generic Instruments* in transforming approvals into revenue. Approvalwise[TM] recognizes that approvals frequently serve as essential prerequisites for market entry. Rather than functioning in isolated silos, sales and approvals management are intricately interconnected, as the effectiveness of sales processes hinges on approval records management that ensures the authenticity, reliability, integrity, usability, and accessibility of approval records.

Approvalwise[TM] Manager

Approvalwise[TM] Manager is a comprehensive approval records management application that integrates the demands of sales and the safeguarding of approval assets with the efficient management of approval records.

With Approvalwise™ Manager, companies gain the following key capabilities:

- **Quick 24/7 Access:** Access and retrieve approval records swiftly from anywhere, addressing the needs of both sales and customer service within minutes.
- **Enhanced Safeguard:** Safeguard approval records against unintended expiry, as well as data loss resulting from unauthorized alterations.
- **Authentication:** Verify the authenticity of third parties provided approval documents that are associated with the business.
- **Data Synergy**: Develop the foundation for joining approval data with other operational information to unlock the full potential of data-driven decision-making.

These capabilities are further detailed below:

Creating a Central Repository

Approvalwise™ Manager enables the creation of a central registry that inventories all approval assets, provides easy access to information relating to the total inventory count and list of all approvals, a complete breakdown of approvals by types, jurisdictions and products, and an account of all the documentations that make up each approval record.
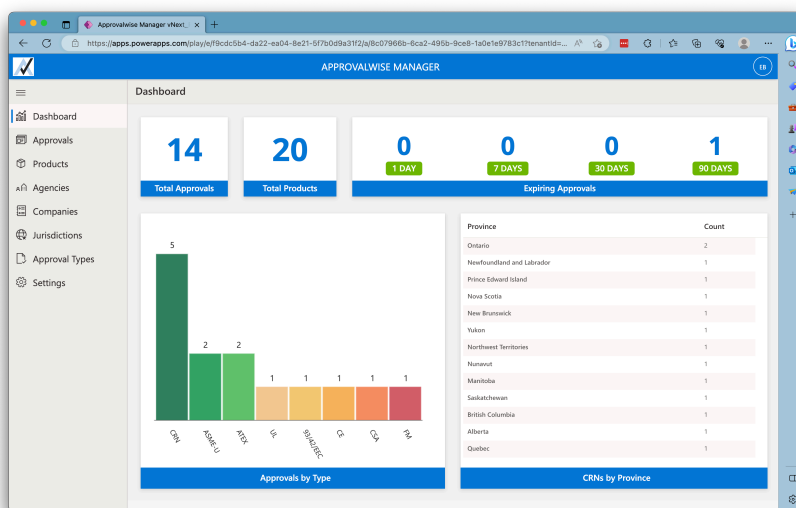
Generic Instruments' Approvalwise™ Manager Dashboard configured to show: total number of approvals, total number of products covered by the approvals, breakdown of approvals by type and jurisdiction, and upcoming expiry.

Capturing Metadata About Approvals

Approvalwise™ Manager captures a set of essential defined metadata about approval records, product records, as well as a set of key relationships of these metadata, bringing them into a single, structured central repository.

Main Approval Screen of Generic Instruments' Approvalwise™ Manager

Examples of approval metadata captured in Generic Instruments' Approvalwise™ Manager View Approval Screen

The capturing of these metadata has far-reaching implications in enhancing the efficacy and efficiency of approval records management:

Quick Search and Access

First, it enables a more robust ability to find, access and manage approval records, including the ability to quickly find all approvals associated with a product, as well as all products associated with an approval and much more.

Monitor Unauthorized Modifications of Approval Records

Second, Approvalwise™ Manager captures essential metadata around editing of records, including version history. This enables the capability to monitor unintended or unauthorized modifications to approval records, curbing the associated risk of data loss and corruption. The reliability and integrity of approval records are enhanced as a result.

Prevent Unintended Expiry of Approvals

Third, to prevent unintended expiry of approvals, Approvalwise™ Manager automatically conducts a daily check of the expiry dates recorded for all approvals in the central approval repository and sends an email to a defined list of users to highlight pending expiry within a specified duration (i.e. in a month, a week, etc). This eliminates the need to manually create calendar entries, preventing erroneous or accidental alteration/deletion of those calendar entries. This capability enables companies to safeguard their approval assets, while minimising the risk of non-compliance.

Verify the Authenticity of Approval Documents

Additionally, to address the concern of authenticity of externally circulating approval documents, Approvalwise™ Manager offers a blockchain timestamping capability which records an immutable cryptographic record of every approval document stored in Approvalwise™ Manager on the public blockchain. This allows anyone holding a copy of an approval document managed in Approvalwise™ Manager to validate the document for integrity (i.e. to ensure the document is unaltered), using publically-known cryptographic techniques. It also provides a mechanism to assure the integrity of a company's approval assets when the documents are circulating "in the wild."

Establishing the Foundation for Approval Related Data Linkages and Market Intelligence

Through capturing essential metadata about approval records and the creation of a central approval repository, Approvalwise™ Manager enables the development of a key approval related infrastructure—a comprehensive approval records database.

Once established, this infrastructure can potentially be integrated with other operational information within the company. This integration will provide a broader and more comprehensive data set for business analysis and decision-making. Creating linkages between various datasets, such as approval records, product information, distributor details, customer profiles, and more, will allow companies to break down information silos and derive new insights and strategies. It will enable businesses to develop strategies to drive sales that are approval-related, harnessing the full potential of data in their approval assets.

Approvalwise™ Data Services

Approvalwise™ offers an extensive array of data services, designed as optional enhancements for Approvalwise™ Manager subscribers. These services empower subscribers to make a smooth and efficient transition from their existing approval records management to the Approvalwise™ Manager system, all without diverting vital resources or attention from their core operations. With these enhancements, subscribers can quickly and effectively operationalize Approvalwise™ Manager, freeing them to concentrate on their core competencies and strategic objectives.

Approvalwise™ data services include:

- **Approval Inventory Assessment:** An in-depth evaluation and inventorizing of all approval records, understanding of their total count, conditions and status.
- **Metadata Extraction Preparation:** Preparing approval records for metadata extraction, including sorting by approval type.
- **Essential Metadata Extraction:** Extraction of crucial and predefined metadata from all approval records.
- **Product Information Integration:** Gathering product information and creating a product resource database to facilitate linkages with approval records.
- **Data Ingestion**: Ensuring a smooth and efficient data ingestion process, migrating data from existing approval records management to Approvalwise™ Manager.
- **Data Quality Control:** Rigorous quality control measures to verify accuracy at every step of data extraction and ingestion.