



The Information Management
Center of Excellence:
A Pragmatic Approach

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EXECUTIVE SUMMARY

The purpose of this whitepaper is to provide organizations with some pragmatic advice and recommendations on how to develop a Center of Excellence (CoE) that is aligned with the Information Management (IM) goals of the organization.

Emtec broadly defines Information Management as the tools, technologies and processes relating to the data lifecycle; from the capture of transactional data, through operational data stores to Data Warehouse & Data Mart storage, the creation of master data, reporting & analytics, and ultimately the archival of historical data. This definition includes; master data management (MDM), data movement (ETL) processes, information delivery through Business Intelligence (BI) and Analytics, and Data Governance policies & procedures.

This paper will detail how to develop a business case for a CoE, outline a maturity model that can grow and adapt over time with the organization, and reveal four critical success factors for a long term, sustainable CoE.

We have adopted the terminology “Center of Excellence”, and while alternate terminology is perfectly acceptable, we like the emphasis on Excellence. While an organization might not have the maturity or resources assigned to achieve this, excellence should always be the goal.

For example, if you are a manufacturing company – would ‘competency’ in product manufacturing and quality be acceptable? If you’re in financial services – would you accept ‘competency’ in customer service and managing financial assets. The answer is clearly, No. So then, why would the IT organization accept anything less than Excellence in developing and managing to a set of policies, procedures & best practices related to information assets?

THE BUSINESS CASE FOR AN INFORMATION MANAGEMENT COE

A recent Gartner research report states bluntly that; “organizations without such cross-functional centers will find that their efforts do not deliver the promised results, and their BPM initiatives will subsequently be disbanded. Fully 50% of BPM projects conducted without CoE support go belly-up”. Gartner*

The excerpt from Gartner correlates with Emtec’s experience; however we have seen Information Management projects without a formal CoE established don’t necessarily go ‘belly-up’, but tend to just deliver a smaller percentage of the benefits available.

It is challenging to develop a quantifiable business case for establishing a CoE since the benefits tend to be better quality, quicker time to market and improved quality of (project) deliverables, which in turn reduce development and support costs.

Assuming the Gartner quote above of, “50% of BPM projects conducted without CoE support...” is overstated, the metrics we have observed in past engagements indicate that project costs without a CoE in place can run 20 percent over budget (Figure 1).

Figure 1 data was derived from a few recent BI deployment projects for Dashboards, Reports and Ad Hoc Query capabilities. It illustrates some of the efficiencies & cost savings that can be realized from the establishment of a CoE. of a CoE.

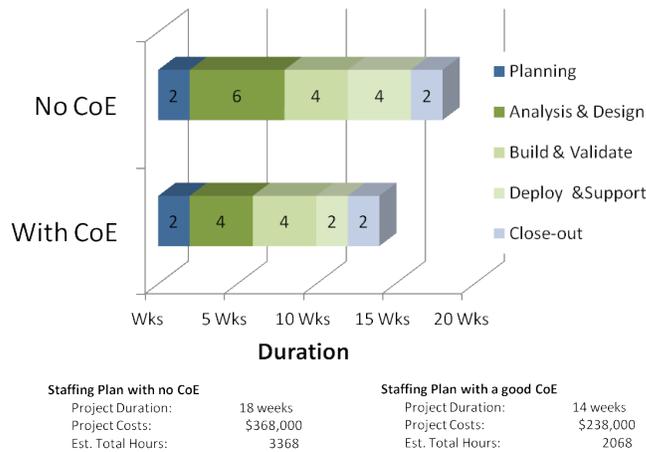


Fig 1: Project Comparison – with & without a CoE

* Gartner- Starting Up the Business Process Competency Center, 2010 (Validated Nov 2011)

This comparison builds a business case for establishing a CoE where benefits are primarily realized during 'Design & Analysis' and 'Training & Support' phases. Several important benefits of employing a CoE are highlighted by this example:

- **Time to market (project duration) is reduced by 4 weeks & 1300 hours**
- **Project cost savings are approximately \$130,000**
- **Project completion date is more accurate because we can be more granular in project estimation for the Analysis & Design, Build & Validate, and Deployment phases of the project**
- **Improved forecast accuracy reduces project risk**

Assuming organizations embark upon two to three projects of this size per year, the costs of not having a formally established CoE can quickly accumulate to several hundred thousand dollars per year. Organizations can see significant quantifiable and quality benefits directly resulting from the CoE.

THE CENTER OF EXCELLENCE MATURITY MODEL

Emtec has seen many CoE and Data Governance initiatives start with the best of intentions, then falter and ultimately fail because of the 'cult of personality'. What we mean by this is that generally a strong technical proponent takes ownership of the BI CoE or ETL CoE, without any defined charter from IT management, and zero business sponsorship. In most cases the CoE has no future functional expansion and it survives only for the time the technical proponent remains in their position.

Organizational maturity is required if the CoE aims to add sustainable value across business units and add true value to the IT organization.



Fig. 2 – Organizational Maturity

Figure 2 illustrates that a successful CoE is dependent on key business stakeholder support from the top-down, to align with Strategic Business Initiatives (SBI's), and support from Program / Project Managers & Architects from the bottom-up to implement Policies, Procedures & Best Practices.

Expanding on this organizational maturity theme:

Strategic Direction: Strategic direction and prioritization of business initiatives filter down from Executive leadership through a formally established IT Steering Committee. The IT Steering Committee is comprised of key business stakeholders and the CIO or VP of IT. The CoE primarily takes strategic direction from the IT Steering Committee.

Alignment with Strategic Business Initiatives: The CoE charter will include the authority to influence technology decisions based on business priorities. Equally important, the CoE has the support of the IT Steering Committee as it implements the alignment of strategies, business process improvements and technologies. The CoE will be ineffective without the following:

- **Visibility across all business units and across the IT organization**
- **Authority to make decisions that favor one business group over another**
- **Ability to make process & technology decisions with the strategic interests of all business units in mind that take priority over the tactical requirements of any single business unit**

Policies, Procedures & Best Practices: In order for the CoE to have measurable impact across business units, Program & Project Management, and Architecture need to be aligned with the goals of the CoE.

- **Standards, policies, procedures & best practices as defined by the CoE are implemented by project managers & architects**
- **The CoE is recognized as an 'enabling' group, not a barrier getting in the way of IT project delivery**
- **The effectiveness of the CoE can be measured by efficiencies in terms of IT project delivery. i.e. IT projects are completed faster, with fewer resources because standardized components, common business rules, etc. as a result of best practices defined by the CoE**

COE Maturity

Establishing a long-term vision for the CoE typically takes a 'back-seat' to the pressure to deliver a BI project, a new Data Mart or a new subject area in the Data Warehouse. In our experience, we tend to see the vision for a CoE emerge after an organization has delivered one or two projects.

There's recognition within business units; the project took longer than it should have and within IT; a number of the efficiencies of the ETL tool or the BI platform were not realized.

Frequently, these concerns are elevated to the IT Steering Committee, 'harsh words are exchanged and blame is assigned'. The root cause can be attributed to the lack of a CoE, and lessons learned from the first project are not leveraged in the next.

We have also observed that the need for a CoE is initially recognized by a technical proponent, usually someone with strong technical skills. It tends to be driven by a bottom-up recommendation instead of a top-down vision.

Emtec recommends the following pragmatic approach in developing a cross-functional CoE that resides at the intersection of business domain knowledge (business process improvement / BPI) and information management.

Emtec recommends four stages of maturity (Figure 3) when establishing the vision, charter, & authority of the CoE as well as the organizational structure and resources to be assigned.

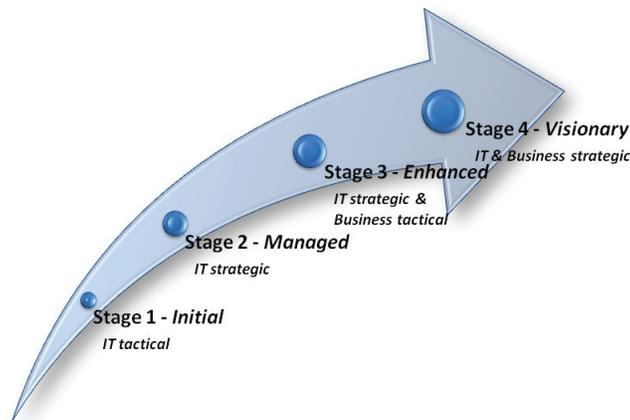


Fig. 3 – CoE Maturity Model

These four stages (as detailed below) describe a maturity model that can grow and adapt over time.

CoE Maturity Model- The Four Stages

Stage 1- Initial

IT Tactical

At the earliest stage of maturity, the CoE begins to form around one or two IT projects and the information needs of each. Frequently it originates from concerns or frustrations relating to accurate, complete and timely access to specific data elements, or as a result of inconsistent business rules.

The concerns and frustrations expressed are internal to only IT. They survive for the duration of the project, are lost after go-live, and have no visibility from business groups.

A CoE is informally established with one or two technical individuals who recognize the need for technical standardization within their area of expertise.

- **People** – The impacts are limited to a small, informal group within IT, typically ‘flying under the radar’.
- **Process** – The scope of impact is contained to a single technical domain (e.g. within a BI or ETL project).
- **Methodology** – The approach used centers on documenting the technical issues encountered to avoid repeating the same mistakes in the next project.

Stage 2- Managed

IT Strategic

The next stage of maturity is reached when the initial CoE efforts touch on more projects and might begin to cross technical Domains.

During this Managed stage the initiative gains some ‘stickiness’ within IT with the goal of developing processes, procedures, controls and policies around the common data elements and/or common business rules.

The CoE remains an IT-centric initiative, but the breadth now covers an entire subject area such as Business Intelligence where all reporting is defined, inventoried and delivered.

The CoE expands to include Project Managers and others with a common interest within IT and the CoE begins to meet on a more formal basis.

- **People** – The impact is limited to an expanded working group internal to IT and word might ‘leak’ out to business groups.
- **Process** – The CoE is working cross-projects within a single subject area. The focus is more on formal definition and imposing technical standards.
- **Methodology** – The CoE has no formal charter or structure, and other IT groups are observing with interest as the value of the CoE is gaining recognition.

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Stage 3- Enhanced

IT Strategic & Business Tactical

At the Enhanced stage of maturity, the CoE has achieved recognition within IT and some business groups become aware of the value the CoE brings to the business.

The CoE scope of influence expands to include business process improvement (BPI) by incorporating both business domain knowledge (SME’s) as well as IT. This structure enables both an understanding of business processes and the data required to support BPI initiatives across the organization.

As the CoE reaches out to business units, the charter, leadership, management support and resources of the CoE need to be agreed upon.

This can typically be seen during a master data management (MDM) initiative where business units are providing definition around their data needs and IT is creating data definitions to be used across application systems.

- **People** – The impacts on people extend from IT to selected business SME's, usually business unit managers and business analysts.
- **Process** – The scope shifts away from purely technical to focus on documenting BPI's and definition of the data & IT processes required to support them.
- **Methodology** – The approach shifts from being tool, technology and project focused, to an approach where IT and business participants are developing common goals and deliverables.

Stage 4- Visionary

Business & IT Strategic

The final stage of maturity is the ultimate goal for the organization, but it doesn't imply the work of the CoE is complete.

At this stage of maturity the emphasis is on data governance and data stewardship crossing functional boundaries and across subject areas. Formalized organizational structures are in place for the IT Steering Committee; and lines of communication are established between the CoE and the Project Management Organization (PMO).

With this partnership in place, the organization realizes the benefits of treating information as a trusted asset supported by common business processes and common business rules. All data is governed throughout its lifecycle from transactional systems, to operational data stores, to data warehouse & data mart, to end-of-life as archived data.

- **People** – Multi-level partnerships between key business stakeholders and the CIO / VP of IT. The CoE includes business & IT managers in a long-term partnership.
- **Process** – Business processes, policies, procedures and best practices are defined and adopted.
- **Methodology** – An alignment of strategic business initiatives with best practices in information management, data governance, and management of data warehouse, master data and BI projects.

Over the four stages of maturity, the emphasis of the CoE adapts from being extremely tactical, limited in scope, and very reactionary- evolving into a group where IT staff and business users are working towards common goals. The CoE has a broad understanding of the information needs of the organization, defines common business processes and their information needs, and has a measurable impact on the time and the costs to deliver Information Management systems.

A MULTI-DOMAIN CENTER OF EXCELLENCE

In the previous section we introduced two concepts; Business domain knowledge and how it relates to the Business Process Improvements (BPI's) defined by the CoE; and Technical domain expertise which results in the definition of policies, procedures & best practices. We'll expand on how these relate to the multi-domain Information Management CoE in this section.

Both business units and IT bring Subject Matter Experts (SME's) to the CoE, however we have made the distinction between business process knowledge and technical (tools & technology) expertise, simply to clarify the experience each brings to the CoE.

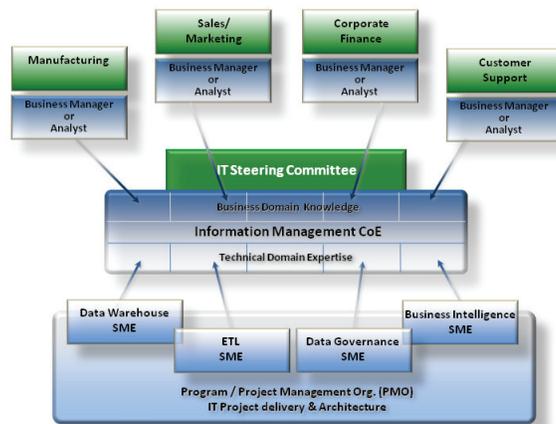


Fig. 4 – Multi-Domain CoE

With reference to Fig. 4 above, a Multi-Domain CoE, Business Unit Managers or Business Analysts (Top) bring business process domain knowledge to the CoE. Technical domain expertise (Bottom) is bought by specific technical skills, primarily from the IT organization.

The charter of the CoE is supported by key business stakeholders and the CIO through the IT Steering Committee.

Intersection between Business & IT

As an organization achieves a Managed level of maturity, the CoE will be positioned at the intersection of business process domain knowledge and technical domain expertise.

As we stated in the previous section, the CoE will continue to mature over time, so maturity and business unit organization factor in the composition of the CoE. In other words, while there are common elements between all CoE's, there is not a 'one size fits all' approach to the composition of the CoE.

Business process domain knowledge: Business unit managers and/or Business Analysts are the SME's for business process knowledge.

In any organization, IT will have business units who are heavily dependent on the services IT provides and other business units who are less reliant on IT. In an ERP environment, dependence on IT generally follows the same sequence as the deployment of ERP modules and it's a leading indicator of which business units have the greatest Information Management needs.

A realistic scenario is: IT delivers one or more projects for Corporate Finance and during the course of these projects, certain inconsistencies in business rules (the combination of business process and the data supporting them) are found and resolved. In the Managed stage of CoE maturity these inconsistencies are primarily resolved through technical domain expertise, but it implies the CoE is informally developing business process knowledge around Corporate Finance business rules.

Similarly, business process knowledge will develop within other business units for which IT is delivering projects. Government agencies, Not-for-Profit organizations & Education entities use different terminology, but the same evolutionary process will occur across business units.

Emtec recommends, in the evolution from Managed to the Enhanced stage of CoE maturity that an organization begins to incorporate the key business units that are heavy users of IT services as the first participants to formally bring business process knowledge into the CoE. The pragmatic reason for taking this approach is that some Business Analysts and Business Unit Managers will already have informal familiarity with the concept of the CoE, and become early adopters.

Technical domain expertise: IT Project Managers, other IT Managers and Architects are the SME's for technical input into the CoE. As discussed in the previous section, definition of business rules etc. will have begun during the Initial stage and been further developed during the Managed stage of CoE maturity.

The most common starting point is projects based on an ETL tool or a BI platform. As a consequence, technical expertise will develop around the ETL tool or BI platform during the Initial stage of the CoE maturity and evolve from there.

As the CoE matures from the Initial stage to the Managed stage, technical expertise will expand to include: a Business Intelligence technical domain and a Data Integration (Data Warehouse & ETL) technical domain. Further into CoE maturity, a Data Governance (Data Quality & MDM) technical domain and an Information Management technical domain might be added. Depending on the size and complexity of the organization, additional technical expertise might round out the CoE. Additional technical expertise might include: Change Management, Database Management, IT Operations, and Information Security as a few examples.

It's not uncommon in a large organization to find multiple BI tools / platforms in use, or multiple DBMS in use by different business units. The CoE should be an inclusive group, so in this case we would recommend CoE representation from each BI tool,

platform, or DBMS in use. It's not uncommon in multi-national corporations to find foreign (outside of the US) business units not adhering to corporate IT standards; how to include foreign business units into the CoE is a challenge.

This brings up a point for further discussion: What is the ideal size and composition of the CoE? Too small and it might not include all elements of technical domain expertise and business domain knowledge; too large and the CoE becomes unwieldy and struggles to agree on policies, procedures & best practices across the organization.

Establishing a Formal CoE

The following points are unique to each organization. We have experience formalizing a CoE for many different organizational structures, and each needs to be considered as a reflection of the (business units & IT) organization the CoE supports.

Critical Success Factors

Figure 5 depicts four elements that are critical success factors in a CoE that's sustainable in the long term.



Fig. 5 – CoE Critical Success Factors

1. CoE Charter

The CoE charter is a formal, enduring document that describes the authority of the CoE; How the CoE is to be structured; How the CoE is to define, adopt & institutionalize policies, procedures, best practices, etc; What the scope & influence is to be; and What business & IT resources are to comprise the CoE. These are the key elements of the charter, and there are sub-topics within each that are specific to each organization.

The CoE charter should be a forward looking document that outlines future stages of maturity, but also a document that can be modified as mergers, acquisitions & divestitures change the organizational landscape.

2. CoE Leadership

Where should the Information Management CoE leadership reside?

As we have stated elsewhere, the CoE generally begins with a technical lead, informally taking over some of the role & responsibility for the CoE, but the question is; should this individual remain in the leadership position as the CoE matures?

He/she might be a respected technical resource within IT, but are they the right person to lead the CoE as it matures to include business unit managers & Business Analysts. As the CoE matures beyond the confines of IT, leadership of the CoE should reside with someone who has the respect of IT, respect within business units, and is trusted by IT Governance and the IT Steering Committee to carry the vision across business units.

We recommend that a strong candidate for the leader of the CoE should be someone seen as a future CIO or VP of IT. An enterprise architect, or a leader from the PMO is a good place to start the search.

3. CoE Executive Sponsorship

In order for the CoE to move through the four stages of maturity described, the CoE needs the support and trust of the IT Steering Committee. The CoE should be seen as one of the implementation arms of the Steering Committee.

A component of the CoE charter describes the interaction of the CoE and the IT Steering Committee. CoE Leadership will be driven by Strategic Business Initiatives approved by the IT Steering Committee, and will either implement the strategic elements, or work with Project Managers & Architects to implement the policies, procedures, best practices at a more tactical level.

If executive support is weak, the CoE will struggle to achieve any measurable IT and business benefits, and probably will not have influence beyond the Enhanced stage of maturity.

4. CoE Roles & Responsibilities

Defined roles & responsibilities is an extension of the CoE Charter. It describes the business domain knowledge required, the technical domain expertise and the composition of the group required to provide input into the CoE. There should be stability amongst the individuals but over time it's inevitable that some members of the team will change. This definition allows for quick identification and onboarding of new members to the CoE.

IT Governance

A multi-Domain CoE, its charter, executive support, resources, etc. should be considered in the context of overall IT Governance. A mature IT organization will have other groups utilizing best practices, policies & procedures for application development, change management, information access, DBMS standards, etc. The combined efforts of these groups are the foundation of strong IT Governance (Figure 6).

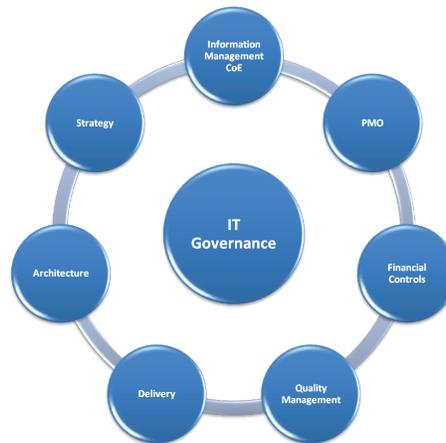


Fig. 6 – IT Governance

Discussion on the structure of an IT Governance organization is beyond the scope of this whitepaper, but it should be recognized that other groups have input into, and are influenced by the Information Management CoE.

For reasons of clarity, Figure 6 only depicts some of the groups forming a mature IT Governance structure.

SUMMARY OF RECOMMENDATIONS

Justifications

Although we provided a realistic business case in a previous section, following is a 'real-world' justification for a CoE to be established and sustained.

From the perspective of business Domain knowledge, we have found numerous examples where once a business process has been defined, many opportunities for business process and cost improvements come to the surface.

For example, in one consulting engagement we found a product that didn't meet the specifications of any customer. The product could have been occupying warehouse space forever. Manufacturing had filled a Demand Planning bill of materials, while Sales never had an order for a product with those specifications.

Would a multi-domain CoE, have prevented this error from occurring?

Possibly, but a multi-Domain CoE that incorporates cross-functional business Domain knowledge and technical Domain expertise would have high-lighted the error earlier in the manufacturing / inventory cycle. Identifying one such error in any organization is clearly a business process improvement and will establish the ROI for the CoE many times over.

Most organizations feel the pain of inconsistent business rules when trying to integrate new data sources. Analysis of the additional time & costs of integration efforts is another means of supporting the ROI of an Information Management CoE.

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Business & IT Benefits

Both the business units and IT organization stand to benefit in many qualifiable ways. Quantifying the benefits is more challenging, because the benefits tend to be indirect rather than direct benefits.

However, business process improvements that can be realized by any organization, regardless of the size or structure of the CoE are:

- **Definition and dissemination of data governance policies & procedures improves data quality and reduces the time to integrate new data sources.**
- **Definition of standards for best practices and principles for project management leads to more accurate project completion dates.**
- **Definition & adoption of common business rules (business processes and the data elements required to support them) improves BI accuracy & completeness.**
- **Definition & adoption of shared ETL components across subject areas reduces the time & costs to develop new ETL processes.**

We take the position that as objections to the CoE are being expressed, progress to the next stage of maturity is difficult at best. If the objections originate within IT, the

CoE will not progress beyond the Managed stage of maturity, and if the objections originate from business units, the CoE will not progress beyond the Enhanced stage of maturity. Objections need to be overcome by evangelizing the goals and demonstrating business process improvements, not purely by enforcement before the organization can mature to the Visionary stage of the CoE.

How to Begin

The following steps may be useful in determining the CoE approach and structure that best fits your organization. There are typically two starting points:

1. The organization is at the pre-Initial stage of maturity; commence by promoting and/or make available training, mentoring & knowledge transfer to improve the rate of adoption within IT, or
2. The CoE is struggling to achieve the Enhanced stage of maturity; take steps to evangelize and lead the CoE as a means of business process improvement in the context of strong IT Governance.

Initial activities can include:

- **Determine if there are Strategic Business Initiatives that a CoE could be built around**
- **Conduct an ‘independent audit’ of the state of the CoE**
- **Evaluate the maturity of IT Governance**
- **Investigate whether or not the IT Steering Committee supports the concept of a CoE**
- **Test the reaction with an internal (selling) presentation**
- **Determine if any other CoEs have been established**
- **Verify if business units have adopted TQI, SixSigma, or other best practices**
- **Does the organization’s culture support establishing a CoE?**
- **What is the organization’s appetite for sustaining a CoE?**

CONCLUSION

With an emphasis on real-world experience, we have shared our functional, technical and management consulting experience, to provide organizations with some pragmatic advice & recommendations on how to develop a CoE that is aligned with the information management goals of the organization.

In summary, we have outlined a business case and the associated Business Process Improvements that can be derived by establishing an Information Management CoE. We have outlined the cost savings, quality improvements and the reduction in time to market for new applications. Finally, we have outlined four stages of maturity, such that the benefits of the Information CoE are verified internally (within IT) and experience is developed before being exposed to business users.

Our goal is to provide a path forward for organizations, no matter how constrained the resources or how insurmountable the challenges appear to be.

RESOURCE LINKS

Industry Links:

- [TDWI \(The Data Warehousing Institute\)](#)

Emtec Links:

- [Emtec BI Blog](#)
- [Emtec Event Archive](#)
- [Emtec Whitepapers](#)
- [Emtec Website](#)

BIOS



Peter LePine

Managing Director, Information Management Practice

Peter is an experienced Project Manager & Architect of enterprise-scale Information Management projects for Fortune 500 companies. Sample project tools and technologies include: ETL, source data Profiling, Master Data management, Data Warehouse & Data Marts following Kimball's data modeling approach, Business Intelligence reports, Analytics & Dashboards. His approach delivers business value through quality-driven solutions that are scalable, supportable, secure & robust.



Tom Lovell

Data Governance Specialist, Information Management Practice

Tom brings a diverse background in data management. He is a practitioner of Master Data Management (MDM) and Data Governance with many years of experience delivering project management, implementations, migrations and operations of global master data.

ABOUT US

Emtec, Inc.

Emtec is a provider of technology-empowered business solutions for world-class organizations. Our local offices, highly-skilled associates, and global delivery capabilities ensure the accessibility and scale to align your technology solutions with your business needs. Our collective focus is to continue to build clients for life: long-term enterprise relationships that deliver rapid, meaningful, and lasting business value.

Our mission is to help our clients improve IT systems and processes – to transform IT into an investment that returns true value to their respective organizations.

For more information visit: www.emtecinc.com.

Information Management (IM) & Business Intelligence (BI) Practice

Emtec's IM & BI practice delivers services to organizations across commercial enterprises, public sector (including federal, state & local government) and education. Through this broad functional, technical and management experience we provide our clients with management advice, recommendations & implementation expertise for a wide variety of IM concerns.

Emtec has adopted a hybrid Agile engagement approach, blending elements of a traditional waterfall approach with an Agile approach in order to deliver incremental value to the business. We believe this has significant advantages over a traditional approach where business value is only realized at the conclusion of the engagement.

Emtec offers a comprehensive set of services across four specialties:

- **Information Architecture**
- **Information Management**
- **Business Intelligence**
- **Data Integration Services**