# Whirlpool Delivery Methods: A Case Study

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## ABSTRACT

Many organizations face the challenge of deploying a consistent project methodology. The challenge becomes more significant for global organizations such as Whirlpool Corporation which have a large number of IS projects cutting across business units, geographies and functional areas.  In 2010, Whirlpool Corporation, a global leader in the appliance industry, deployed a new waterfall-based IS project management methodology - Whirlpool Delivery Methods (WDM) - as part of a strategic IS transformation initiative. This paper examines Whirlpool's journey over the past 2 years including the key levers used to drive adoption and diffusion such as  the role of IS leadership and project tools. The findings from the Case Study, including Survey feedback from 176 respondents, indicate the need to balance project rigor with speed and flexibility and the importance of tools to support project governance. The paper contributes a practical perspective to large-scale IS project methodology deployment.

## Keywords

Project management methodology, Training, Tools

## INTRODUCTION

> *In theory, theory and practice are the same; in practice, they are not.*
>
> -- Yogi Berra

Projects are risky activities. By definition, they are about doing new things, outside the bounds of an organization's routine activities (Oakes, 2008). Considerable attention of practitioners and researchers has been devoted to the development of Information Systems development methodology (Siau and Tan, 2005). At the same time, "software development has not been consistently successful, often resulting in delayed or abandoned software projects. Extensive research has proven that traditional project management methods are insufficient for project success within software development" (Fredriksson and Ljung, 2010).

IT Governance functions are faced with supporting project teams towards successful project outcomes, addressing issues and risks, reporting on project status and ensuring adequate project change control and business engagement.  Ross (2004) indicated that "IT Governance aims to align IT capabilities with a firm's strategic intent and performance goals. But a firm's IT capability results from hundreds of projects implemented year after year, How can a firm ensure that governance decisions filter through each project to yield both project and enterprise-wide benefits?". Many organizations wrestle with this question and some companies have used phase-gate methodologies successfully to improve project outcomes. Using a phase-gate approach, Teradyne's success rate for large projects jumped from 40% to 90% (Maizlish and Handler, 2005). The authors also point out that "IT project portfolio evaluations and reviews at each gate serve as a check and balance, ensuring the right balance of projects are strategically aligned to a company's priorities".

This paper is structured around the experience of Whirlpool Corporation as it rolled out the Whirlpool Delivery Methods (WDM) - a stage-gate based IS project methodology. Firstly, we outline the background of Whirlpool Corporation, the strategic IS transformation journey, the transformation achievements till date and the plans for the IS governance function and project leadership to move project performance to the next level. Next, we look at the fundamentals of the Whirlpool Delivery Methods (WDM), the training, knowledge management and leadership support towards diffusion. We also examine the results of 2 WDM Effectiveness Surveys conducted by the IT organization and outline the WDM Deliverables Selection Process which emerged as one of the action points from the Survey. A large organization like Whirlpool with over 100 IT projects in multiple countries needs a robust project management tool to drive governance. The key elements of the PPM Link Tool used to support WDM adoption are also briefly discussed. Finally, the lessons leaders and avenues for further research are high-lighted.

**WHIRLPOOL CORPORATION: 100 YEARS AND MORE**

Whirlpool has a rich and storied history and the company started as the Upton Machine Company in 1911. Today, Whirlpool Corporation is a leader in the global appliance industry, has 60 manufacturing and Technology Centers throughout the world, more than 60,000 employees and sells products in 130 countries to generate 18 billion US $ in revenue. The company sells a wide variety of appliances including kitchen products (ranges, microwave ovens, and dishwashers), refrigerators, washing machines, dryers and portable appliances.

Whirlpool Corp. is head-quartered in Benton Harbor, Michigan, USA and, since July 2004, Jeff M. Fettig is its Chairman and Chief Executive Officer. The company's sales are organized around 4 regions – North America, Latin America, EMEA (Europe, Middle East and Africa) and Asia. Whirlpool manufacturing plants and Technology Centers are located throughout the world - Marion (USA), Ramos (Mexico), Manaus (Brazil), Schondorf (Germany), Cassinetta (Italy), Pune (India) and Shanghai (China) to take a few examples. Whirlpool, Maytag, Kitchen Aid and Brastemp are some of the world's most recognized appliance brands. The company has earned many awards for its innovation, product quality, consumer design, diversity, corporate citizenship and leadership. For example, Whirlpool was ranked No. 1 in Fortune Magazine's 2011 World's Most Admired Companies (Home Equipment category) and one of the Top 25 Most Respected U.S. companies by Forbes Magazine and the Reputation Institute.

**STRATEGIC IS TRANSFORMATION AT WHIRLPOOL**

The Global Information Systems (GIS) function supports Whirlpool globally and includes the regional CIO teams supporting the business units in different regions, Global Business Solutions (GBS) leading applications development, Global Managed Services (GMS) supporting infra-structure and applications support and the Governance teams of Enterprise Platform Architecture, Information Security, PMO, Strategic Partner Management and Communications.

In May 2007, Kevin V. Summers took over as the Senior Vice President and Global Chief Information Officer (CIO) of Whirlpool Corporation. After a thorough assessment of business strategy and IT needs, the existing IT environment and opportunities for improvement, a multi-year IT Strategic Roadmap was launched covering different phases including building the foundations (infra-structure, application support) value chain integration (procurement, supply chain, consumer services) employee productivity and, finally, the plan to move the IT function to provide integrated global business services. The execution of the GIS strategic roadmap has had many successes over the past few years, some of which are listed in Table 1.

| Area | IS Strategic Transformation |
|---|---|
| Strategic Sourcing | Strategic Partner Management function set up in GIS and sourcing agreements executed globally for infra-structure operations, applications support and applications development |
| Alignment to business strategy | IT Project execution focused on major programs aligned to business strategy and objectives; IS Balanced Scorecard linked to business results |
| Business Engagement | Annual Business Engagement Survey to measure business satisfaction levels with IT performance |
| IS Talent | Multiple job rotation across regions and the 3 Year Leadership Development Program for high-talent university graduates to join the GIS function |

Table 1: Key Achievements of Whirlpool GIS Roadmap

Annual GIS Objectives are aligned with business strategy and objectives. Progress through the year is measured through a Balanced Scorecard approach covering financials, employee measures, operations, strategic programs and business engagement. The IT Project Portfolio covers the execution of strategic programs such as Breakthrough Service Model, WIN Online, Global Integrated Supply Chain, Information Workplace and Product Development and Engineering. As an example, one of the critical IT Programs being executed is the infra-structure Go to Green Program which covers improvements in operations stability, batch optimization and other actions to improve IT performance to support business operations. Other Programs include Network and PC Refresh Programs.

**IS PROJECT GOVERNANCE**

The Global Information Systems (GIS) Governance organization, led by David P. Langendonk, VP, Office of the CIO, is organized around the teams indicated in Table 2.

| Governance Team | Role description |
|---|---|
| Enterprise Platform Architecture | Proactively manages all activities and impacts related to evaluating and planning new technology integration and develops short-term and long-term solutions to IT infrastructure needs. The team also has accountability for data governance. |
| Strategic Partner Management | Leads the overall performance of the sourcing relationship including driving the strategic partner framework, compliance to service agreements and timely resolution of service delivery problems |
| Project Management Office (PMO) | Responsible for deployment of Whirlpool Delivery Methods (WDM) and planning and prioritization of the GIS Portfolio |
| Information Security | Leads the information security and privacy initiatives including accountability for co-ordination with internal audit |
| Communications | Leads communications for business and IT teams and drives strategic communications through Town Hall meetings, Newsletters, etc. |

Table 2: GIS Governance teams

Studies have shown that IS developers adapt and apply elements from IS project development methodologies in a pragmatic manner. Predictable project execution faces multiple challenges such as "communications breakdowns, resistance to change, unclear goals, changing system requirements, budget constraints and time pressure to deliver results" (Madsen and Pries-Heje, 2009). Whirlpool also faced similar challenges including a history of strong project performance based on people rather than sustainable processes and tools, a legacy project methodology deployed in mid 1990s, and inconsistent execution of business and IT governance mechanisms to control project scope, budget and time-lines. To address these opportunities, the GIS Governance team initiated a number of action steps including introduction of the Whirlpool Delivery Methods (WDM) methodology, deployment of the world-class PPM Tool Suite (with Project Server and Microsoft SharePoint), strengthening the management routines around project governance and better management of the IS Portfolio Prioritization process.

**WHIRLPOOL DELIVERY METHODS (WDM)**

 The **Whirlpool Delivery Methods (WDM)** is an integrated set of delivery methods tailored for different types of work and sizes of projects. The WDM has phases comprised of investment tollgates and WDM stage gates. Each phase has varying work activities, deliverables, and actions but all phases are intended to support system/project governance, risk management, and investment management.

The key elements of the Whirlpool Delivery Methods (WDM) are:

1. Multiple Tollgates covering the Plan, Analyze, Design, Build, Test and Deploy phases. Each of the phases has specific deliverables. For example, Plan Phase deliverables include high level requirements, solution blueprint, delivery strategy, service introduction, plan, and change management strategy.
2. Detailed templates for each of the deliverables
3. Quality built in through Stage Gates focusing on deliverable quality and Peer Reviews of critical project documentation

"Decomposing systems development into a sequence of phases that provides clear deliverables enables more effective project estimation, resourcing, monitoring and control. Standardizing the development process may facilitate the exchange of staff,

expertise and techniques between projects but relies on the application of a methodology in a constant way between developers and projects" (Carroll, 2003). WDM is based on the Accenture project methodology customized for Whirlpool and instills a stronger discipline of project management and system delivery. With WDM came new tools, templates, and processes for the organization to use when executing IS projects. These processes drive increased emphasis on project planning and estimation, system documentation, and quality reviews. The methodology integrates the tollgate process with systems development life cycle and supports it with governance milestones. The WDM methodology and the deployment of the PPM Tool address many of the trends in project management noted by Selig (2010): increasing user involvement, standard management for all projects, automated project management processes and multi-project status reporting.

**TRAINING AND PROCESS REPOSITORY**

To enable the project methodology to be used across business units, all Global Information Systems (GIS) employees were trained in the Whirlpool Delivery Methods (WDM) methodology through the on-line Whirlpool University system. The training consisted of multiple modules based on online power point slides with voice-over and questions to test for learning. Weekly updates on training completion status for GIS employees were used to encourage the employees to complete the training. The on-line training was completed by employees in 16 countries and laid the base for WDM deployment. The training modules are indicated in Table 3.

| WDM Training Modules | |
|---|---|
| Project Management Overview | Requirements Development |
| Regional CIO Overview | Estimation Model and Tools |
| Stage Gate and Peer Reviews | Project Change Control Process |
| Solution Design and Development | Issue and Risk Management |

Table 3: WDM Training Modules

While there was positive feedback on the training, there was also input on the complexity of the methodology and the need for business teams to complete WDM training. All basic training material and templates were stored in the internal knowledge repository accessible by all Whirlpool GIS employees.

**LEADERSHIP SUPPORT FOR WDM ADOPTION**

Leadership support was critical to WDM launch and embedment and GIS leaders such as Global CIO Kevin Summers, VP Dave Langendonk and other senior IT leaders used employee forums and review meetings to emphasize the discipline that WDM brings to IT project management. The annual GIS Balanced Scorecard, that was reviewed monthly in a business – IT Operations Review, included targets for WDM training. The project management reviews followed the WDM protocol for project status, mile-stones, issues and risks.

Despite financial and budget challenges, IT leadership also invested in a world-class project tool – PPM Link Suite – which would facilitate the management and measurement of project performance and WDM compliance. The leadership support also extended beyond corporate headquarters – IT leaders in the regional locations such as Comerio (Italy), Sao Paolo (Brazil) and Shanghai (China) also used the WDM process and deliverables to track projects through the life-cycle.

**WDM EFFECTIVENESS SURVEY**

Esteves and Pastor (2001) argue that there is a lack of studies focusing on the utilization of enterprise systems methodologies in an organizational context. In order to elicit user feedback on WDM utilization, two on-line WDM Effectiveness Surveys were held (spaced out with a year's gap) to determine the effectives of the WDM methodology. 176 IT employees responded to the first Survey and 129 IT employees responded to the second Survey. These Surveys captured feedback on various aspects of WDM methodology and IT employees from all regions responded to the Survey. The Survey respondents included all parts of the IT organization including leadership, project managers, business relationship managers, etc. Figure 1 below indicates a typical (summarized) Survey Response.
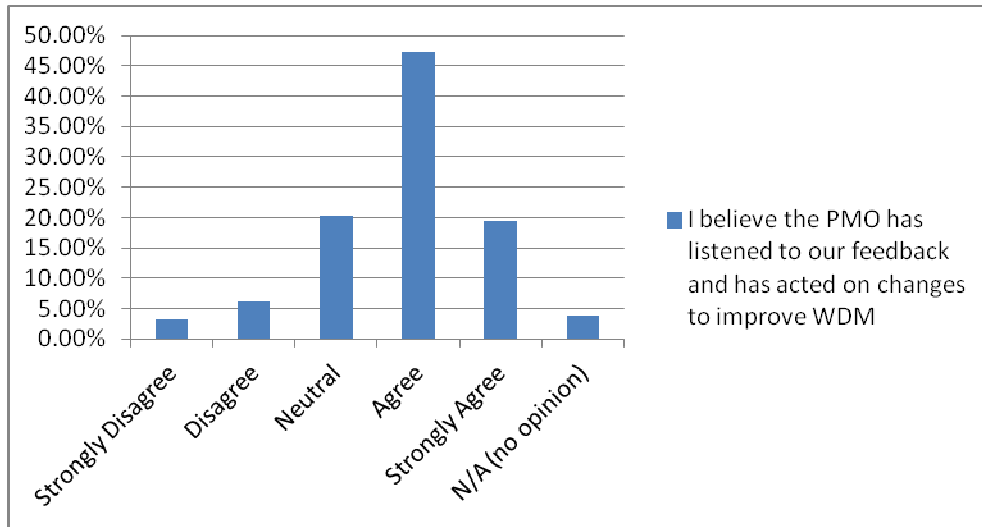
Figure 1: WDM Effectiveness Survey Response (example)

In addition to asking the identical questions from the first Survey, the second Survey had two additional questions to gauge the effectiveness of the PMO actions in driving WDM methodology improvement and whether WDM changes were improving process effectiveness. Some of the Survey feedback improvement data is high-lighted in Table 4.

| WDM Effectiveness Survey | |
|---|---|
| Survey Questions<br><br>Survey 1 (n = 176)<br><br>Survey 2 (n = 129) | Percentage Change in Effectiveness Score  (Survey 2 vs Survey 1) |
| The organization is structured and staffed appropriately to use the WDM Methods and Tools | 16 |
| I have the knowledge to correctly use the WDM methods | 15 |
| I have the knowledge to correctly use the WDM tools | 11 |
| The deliverables and templates DO NOT require redundant information | 13 |
| I believe the Quality Stage Gate process provides us with an appropriate level of WDM support necessary to successfully deliver our projects | (33) |

Table 4: WDM Effectiveness Survey (Percentage Change in Scores)

Finally, the WDM Effectiveness Survey also had an opportunity for respondents to provide open-ended responses to the following questions:

- Please give us feedback or more information on any answers that you think need more explanation.
- What about WDM is positive and contributing value to the organization?
- What about WDM can be improved?

Given below are some of the more than 100 qualitative responses to the above questions.

- The repeatable steps and discipline should prove beneficial to standardizing our approach and delivery ability. There has been much solid improvement since day1

- WDM is one of the best things that GIS introduced. But we need to get to real good sample templates that every project can use.
- We need to pay more attention on monitoring and control and should restrict the number of mandatory documents required (especially for small size project)
- Simplify tools and processes, less gates
- Better communication on "wins" from WDM. Give examples of a project that did X and because of it, they got either better results, lower costs, etc

In order to create a world-class IT organization, Sward (2006) indicates that "the culture must shift from techno-centric to user-centric thinking". Survey instruments are a good way to capture user feedback and the WDM Effectiveness Survey results indicated that the methodology changes were in the right direction. Opportunities for improvement were also high-lighted e.g. improving the Quality stage gate process.

## WDM DELIVERABLES SELECTION PROCESS

The WDM Effectiveness Survey indicated a need for training around how to tailor and apply WDM based on the project scope, size, risk and complexity. Based on an external consulting-based review of WDM deliverables, the WDM Deliverables Selection Process was implemented to stream-line the selection of deliverables for a particular project. A list of 'mandatory' deliverables for every project was also outlined – these included project charter, financial approvals, information security deliverables, issues and risks, tollgate, testing and service introduction deliverables. Additional project deliverables could be chosen from the catalog of WDM deliverables.

At the start of the project, the WDM Deliverables were selected by the project team and approved by the Project Sponsors and the IT PMO Director. This process was well received by the project community and clarity on the project deliverables and associated templates made it easier for project managers to move through the WDM Toll Gates. Curley (2005) pointed out that "an important component of program governance is developing standard templates and methods for each of the stage-gate review processes. Standard templates enable employees to focus on the content of their programs without having to worry about how to develop and present their evaluations. Similarly, standard templates simplify comparisons amongst IT programs and help provide benchmark information at each stage gate".

## PPM TOOL

While deploying WDM, the following inadequacies were seen in the project tools area: no portfolio reporting capabilities, multiple tools being used for project management and the legacy project tools not aligned to WDM toll-gates. As a result of these challenges, the Whirlpool IT PMO decided to implement a world-class project management system – based on PTC Windchill PPM Link integrated with Microsoft Project Server and SharePoint. The PPM Tool is intended to provide the following enhanced capabilities to support the WDM project methodology:

- Portfolio and program management – enabling prioritization of project demand
- Project management – building the Master Schedule and enabling management of WDM deliverables
- Financial Management: covering management of budgets and monthly review of forecast vs actual spend
- Resource management – focusing on management of people resources including resource leveling
- Knowledge management – the Tool is a repository for project deliverable documentation

In the PPM Tool, each project has its own PPM Link workspace to use during the lifecycle of the project. This workspace serves as the centralized location for project governance, team collaboration, issues and risk management and Peer Reviews. Figure 2 indicates the home page for a particular project.
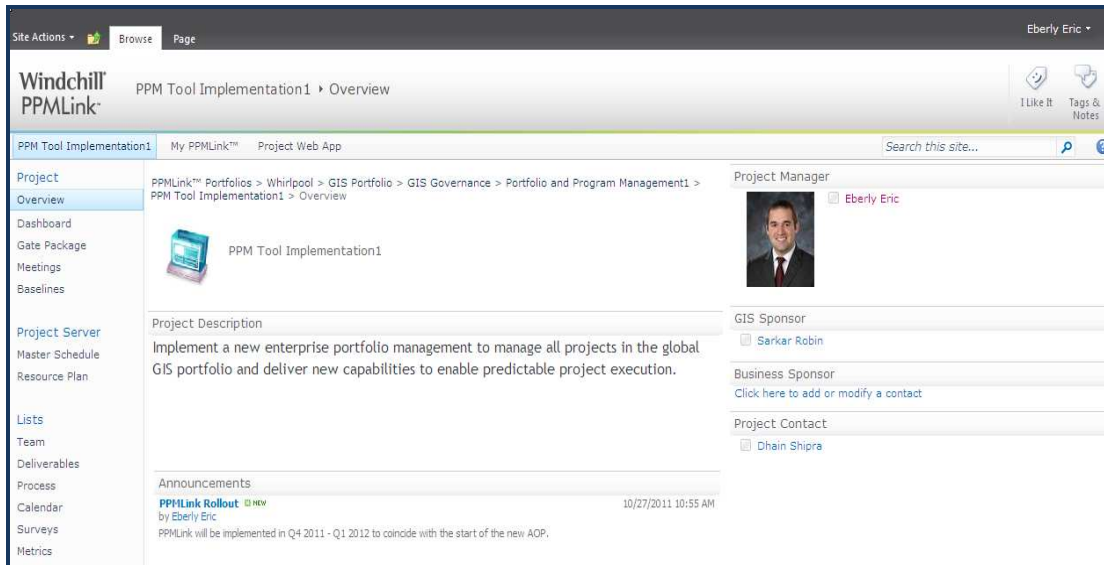
Figure 2: PPM Tool (Screen Shot)

Braun and Avital (2010) note that project management practices are designed to ensure that the appropriate project metrics are developed and managed to achieve the desired project outcome. The PPM Tool was configured with a Project Dashboard containing the following elements:

- **Process Status:** The process status shows percent completion of all deliverables for the current stage.
- **Executive Summary**: Executive summary of the project status
- **Key Accomplishments from the Last Reporting Period**: Key accomplishments to be discussed
- **Goals for Upcoming Reporting Period**: Upcoming project goals
- **Budget Metrics**: The project's estimated spend at completion
- **Resource Overview:** The total work assignment hours for the project over a specific time
- **Top Issues and risks:** All open, high criticality issues and risks

## WHIRLPOOL PROJECT GOVERNANCE – NEXT STEPS

Given the experience with WDM deployment and the management of project demand and supply, the Whirlpool IT team is planning a number of action steps to move IT project performance to the next level. Firstly, communications with the business leadership teams is planned to be stepped up including visibility to project status, better governance and change control on project decisions and early warning alerts on project challenges. Actions are also planned to strengthen the WDM process including reviewing and strengthening the Quality Stage-Gates, deployment of the Peer Review process and ensuring all project process documentation in an accessible central repository.

As Whirlpool expands its foot-print in emerging markets like China, India, Middle East and Africa, the IT team will be challenged to consistently deliver customized solutions in a speedy manner. Emerging markets will demand IT solutions at a different scale, cost and speed of implementation. Financial pressures to reduce IT costs will continue as market growth in Whirlpool's mature markets like the USA, Europe and Brazil would continue to be dependent on the uncertain economic recovery and continuing difficulties in the housing sector. The consumerization of IT with increasing mobility, convergence of communication methods and the huge increase in data is going to place demands on corporate IT teams and Whirlpool is no exception. Improving IT project governance through deployment of world-class project processes and tools along with better management routines is one of the initiatives that would help Whirlpool to get ahead of these challenges.

## LESSONS LEARNED AND AVENUES FOR FURTHER RESEARCH

Madsen and Pries-Heje (2009) note that further empirical investigations are needed in order to provide more evidence and improve our understanding of enterprise system implementation methodologies. This Case Study indicated several lessons learned from Whirlpool's experience in methodology deployment.

*Infra-structure and Software as a Service (SaaS) Projects:* Whirlpool has many infra-structure projects and WDM does not easily adapt to these projects. In addition, software as a service (SaaS) is increasing in use and the Whirlpool IT organization

needs to find a more flexible version of WDM to fit the software as a service (SaaS) model. Fredriksson and Ljung ( 2010) point out that, in the Agile methodology,  "instead of extensive upfront project planning as in traditional stage-gate project management, project plans are mainly made for flexibility and changes and the purpose of project evaluation is not to compare the progress with the original plan but to decide new roads of action for the project". However, the authors add that "not all projects are suitable for minimized scope and agile methods. There are several advantages in plan-driven 'stage-gate' project management as well, and voices are now raised for a balance between the two, seemingly contradictive, perspectives."It is obvious that a "once size fits all" type of project methodology may not be the best option for organizations. Future investigations can focus on how waterfall and agile project methodologies can co-exist and thrive in organizations to support different types of projects.

*Program Reviews and Gate Structure:* The WDM Effectiveness Survey indicated that, from user perspective, there is an opportunity for Whirlpool to stream-line and simplify the current Review and Gate structure. This is also a future research opportunity to look at how organizations strike the balance between the discipline of multiple gates and the need for teams to drive speedy implementation of projects.

*Learning Organization:* Gowan and Mathieu (2003) point out that "successful project performance will become more dependent upon the use of effective project methodologies". Broadbent and Kitzis (2005) also note that business expectations from IT include "solid, ongoing program management, measurement and reporting including formal audits that show how you and the IS organization are learning from your mistakes". Future researchers could explore how organizations capture best practices and lessons learned from individual projects and initiatives and then make these available across the organization to future project teams.

*Reward and recognition:* Reward and recognition for project teams in using the project methodology is an area where more focus is required. In addition, Whirlpool IT, like many other peer organizations, needs to improve the management culture of raising concerns (e.g., I have an issue, I have a risk, I might miss a milestone) and more proactively addressing those concerns, and if needed, getting help and guidance from management.  This is an excellent opportunity for further investigations into the cultural and social action aspects of project execution and the different ways in which organizational culture impact project outcomes.

## CONCLUSION

In 2011, Whirlpool celebrated its 100th Anniversary – through the years, the company has faced and overcome many challenges. Whirlpool is strongly positioned to deliver innovative and quality products to its consumers and, in the increasingly inter-connected world, information technology is going to play an important role in the company's operations. This paper high-lighted the organizational experience and learning in deploying a new IS project methodology as part of the strategic IS transformation journey at Whirlpool.

This Case Study supports the assertion of Mohan (2010) that user acceptance of IT PM methodologies remains a complex and elusive yet extremely important phenomenon. The WDM Effectiveness Survey results indicated user understanding of the importance of project methodology discipline and, at the same time, there was also user feedback on the struggles with methodology complexity in the face of tight business time-lines and expectations.

This article looked at the experience of a global corporation in deploying a consistent project management methodology including the process, tools, training, and effectiveness survey to obtain feedback, leadership support for adoption and the challenges in diffusion.  This paper made a modest contribution, from a practical perspective, to the field of IS project management methodology.

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