CASE STUDY

ITS Improves Predictability with CMMI® Development

THE BUSINESS NEED

In order to maintain their leading market position, ITS must continuously innovate in terms of product and service offerings. To support their innovation and continuous improvement strategy, ITS invested $12 Million in four new banking products in the year 2018.

Considering the influx of technology startups in the market and the rising demand for financial technology solutions driven by changing consumer needs, ITS identified a need to optimize the effectiveness and efficiency of their business. Efficient project management would be key for ITS to remain competitive whilst exceeding customer expectations and enhancing customer satisfaction.

Baseline reports conducted by ITS in 2016 identified a number of problem areas that were impacting their efficiency and effectiveness, including:

- Unpredictable cost and effort variance
- Inadequate planning process accuracy
- Missed deadlines resulting in customer complaints

The organization then reverse-engineered these problem areas into strategic project planning goals that would enhance their business and elevate customer satisfaction levels:

- Improve project estimation to more accurately reflect size and complexity requirements
- Increase predictability in projects effort levels
- Improve project planning accuracy for both scheduling and velocity
- Elevate customer satisfaction levels

COMPANY BACKGROUND

International Turnkey Systems (ITS) is a leading provider of financial technology solutions in the Middle East and across the globe. The ITS portfolio offers world-class services in a wide range of industry segments, including financial services, education, enterprise, energy, communication, and government. Based in Cairo Egypt, the Banking Projects Development division of ITS is a leader in integrated information technology and software in the Financial Services industry. They have a proven track record for success in implementing cutting-edge IT solutions to over 350 international customers. To learn more, visit **www.its.ws**.

THE SOLUTION

In alignment with their innovation strategy, ITS determined that they would need the following to enhance their estimation process:

- A framework to reflect project requirements, size, and complexity while improving the accuracy of the planning process in terms of budget and velocity
- A tool to monitor data that shows the effectiveness of the business and its products and services. This data was needed for ITS to continuously improve organizational efficiency and customer satisfaction

In 2017, ITS chose to adopt the Capability Maturity Model Integration (CMMI)® framework in order to meet their goals of improving the accuracy of project estimation and planning processes. As a customer-centric organization, they recognized CMMI as the best option to manage, monitor, and support effective communications with their clients throughout the project process.

ITS's Banking Projects Development division was appraised at CMMI Development Maturity Level 5, indicating the business unit's process capability and commitment to continuous improvement. This high maturity appraisal is an indication of the division's stability, which provides a platform for agility, innovation, and rapid response to both opportunity and change.

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RESULTS

ITS's adoption of the CMMI framework was extremely successful. The improvements that were achieved helped to optimize the organization's business unit performance and achieve targeted customer satisfaction levels while reducing costs. The effectiveness of ITS's CMMI adoption was specifically measured for tangible business results:

The Probability of Success (POS) for projects has improved dramatically from 2016, reaching 90% in 2019:
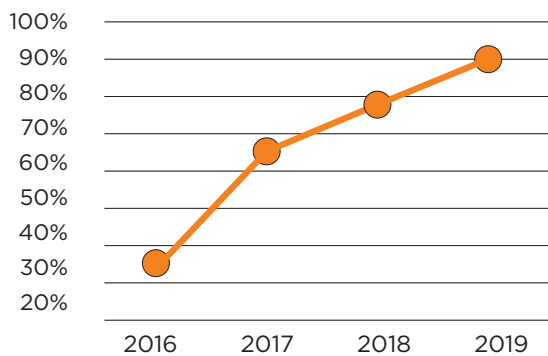
Customer Satisfaction survey scores show consecutive improvement over the past four years:

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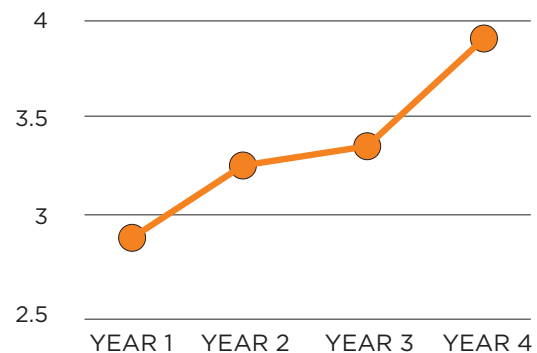
- By using the Causal Analysis and Resolution (CAR) and Organizational Process Performance (OPP) practice areas of CMMI (which focus on creating baselines and analyzing root causes of variation), ITS was able to implement the Organizational Performance Measurement (OPM) practice area and highlight issues of variance
- Monitoring team velocity allowed ITS to enrich the improvement pipeline and enhance process performance, ensuring on-time delivery and facilitating geographic expansion
- Implementing CMMI improved ITS's ability to monitor their data integrity, enhancing and calibrating estimation accuracy and reflecting current team capabilities. Esam Alkheshnam, CEO of ITS, credits CMMI with "helping the organization continually enhance process and product capabilities to build trust with customers and support their business plans and strategic success."

> "CMMI helps our organization to continually enhance our process and product capabilities."
>
> — **Esam Alkheshnam** ITS CEO

LESSONS LEARNED

On the Structure Level:

- Create a dedicated team for leading the estimation process across the company's products.

On the Process Level:

- Divide requirements into user stories and then story points. Agree on using Agile story points as the main source of estimation
- Prepare reference tables for relative analysis
- Measure standard deviation and mean monthly and quarterly for Effort Variance (EV)
- Measure the velocity to be used in planning and re-planning. Monitor standard deviation and mean of velocity to pinpoint variability
- Complete Root Cause Analysis (RCA) for unusual data points that are subject to corrective actions

On the Tools and Support Level:

- Enhance DevOps tools to focus on Requirements Management/Project Planning
- Build a data management team and automate data validation for efforts and defects. Perform continuous calibration and pass on feedback to the Project Manager
- Create a re-work model for the sub-process that leads to Effort Variance (EV)

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On the Tools and Support Level:

- **MEASURES:**
  ITS is now able to measure product quality by defect density
- **TIMELINESS:**
  Monitoring team velocity led to enriching the improvement pipeline, which in turn enhanced process performance and on-time delivery
- **EXPANSION:**
  Improving velocity allowed expansion of ITS services to other regions with the same capacity

> "CMMI supports our organization to build the trust with customers by building capability that fulfills business plans."
>
> — **Muawiya Abo Jubien**, ITS COO and CMMI Sponsor

KEY TAKEAWAYS

Follow the Data

- **QUALITY:**
  Customized DevOps tools helped teams to log data correctly, improving data quality and optimizing measurement systems
- **TRACEABILITY:**
  DevOps was used to trace requirements back and forth within specific environments, isolating changes in Root Cause Analysis (RCA)
- **DATA INTEGRITY:**
  Automated tools and early communication allowed for periodic data validation and corrections to be made sooner
- **FEEDBACK:**
  Continuous system feedback provided greater accuracy and understanding of the current status, which helped ITS improve future estimations and calibration, team capability, and productivity assessments

ABOUT CMMI® INSTITUTE

A subsidiary of ISACA Enterprises, CMMI Institute (**cmmiinstitute.com**) is the global leader in the advancement of best practices in people, process, and technology. CMMI Institute enables organizations to elevate and benchmark performance across a range of critical business capabilities, including product development, service excellence, workforce management, data management, supplier management, and cybersecurity.

For over 25 years, thousands of high-performing organizations in a variety of industries, including aerospace, finance, healthcare, information technology, software, defense, transportation, and telecommunications, have achieved sustainable business success through CMMI adoption and demonstrated their ability as capable business partners and suppliers.