Benefits of the Functional Performance Specification For I&IT Projects (A Business Perspective)

CSVA 2008 Conference

Agenda

- So you want to automate your processes
- Success rate for IT related projects
- The Functional Performance Specification (FPS)
- What are the Benefits
- Drawbacks to the FPS
- Some examples of FPS at the Ontario Ministry of Transportation

So You Want to Automate your processes

- How do you determine client & stakeholder values?
- What are the essential features?
- How much are you willing to pay for those features?
- How do you reach an agreement between all the different stakeholders
- How do you decide whether to:
  - buy off the shelf,
  - buy and develop, or
  - just develop your new system?
- How do you know if the system you got is the one you really wanted?
- What do you do if you want to upgrade your system 5 years down the road and the business expertise is gone

Success Rate for IT Projects

- IT Projects are organizational investments that require:
  - Time
  - Money
  - People (IT experts and Subject Matter Experts (SME)
  - Technology, infrastructure etc
- Organizations expect some type of **value** in return for the investment.
- Resources are limited so an organization must choose among competing projects

Success Rate for IT Projects

- A Study of large IT Project success rates was performed between 1994 and 2004

- In 2004
  - 29% were successful
  - 18% were impaired
  - 53% were challenged

Success Rate for IT Projects

Which is Worse:

Successfully building and implementing a system that provides little or no value to the organization (Does not meet the users needs or expectations).

Or

Failing to complete an IT system that could have provided value to the organization

Success Rate for IT Projects

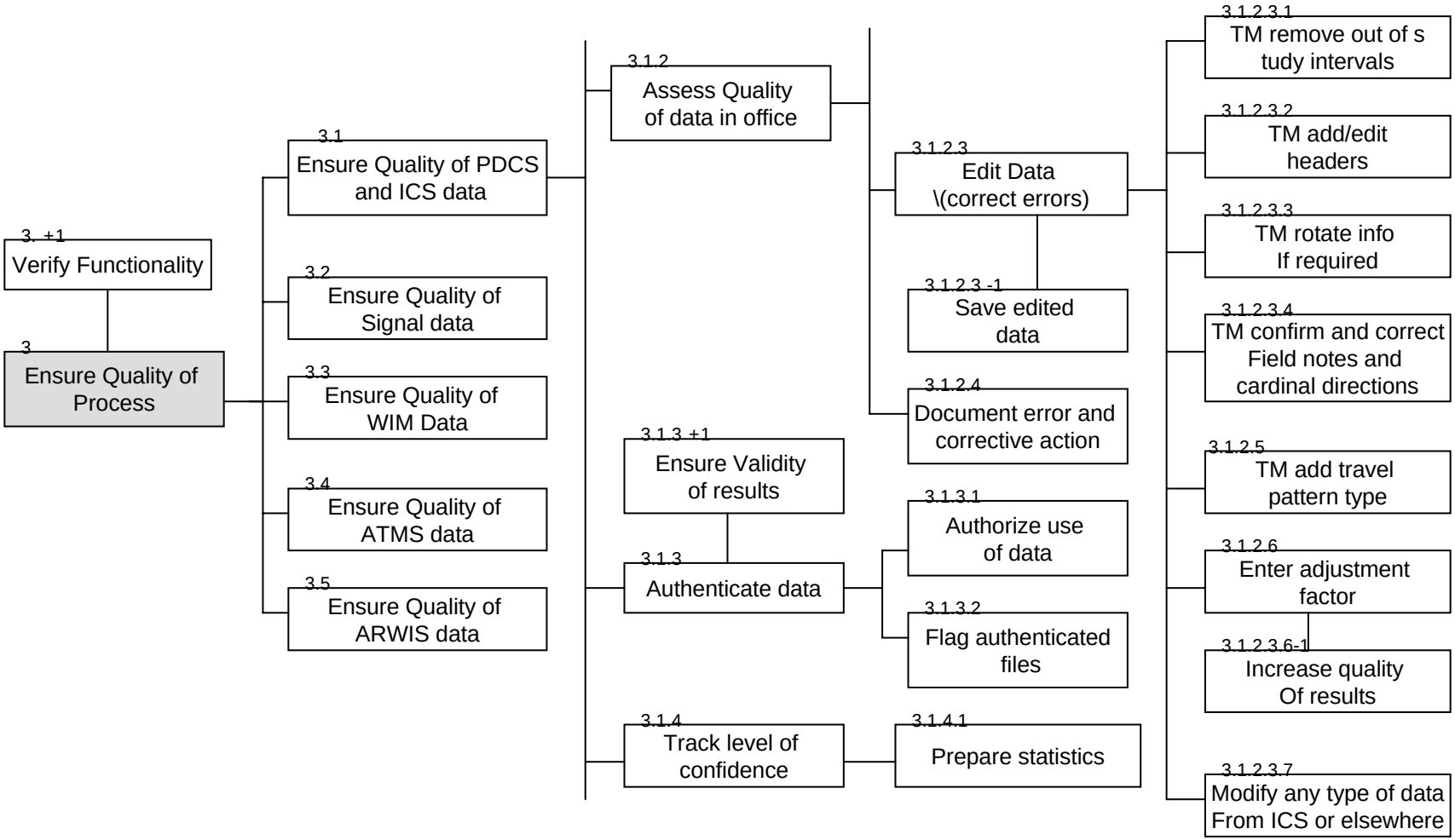
- TOP 10 Factors for a Successful IT Project:
  - Executive Support
  - User Involvement
  - Experienced PM
  - Clear Business Objectives
  - Minimized Scope (reduced scope creep)
  - Standard Software Infrastructure
  - Firm Basic Requirements
  - Formal Methodology
  - Reliable Estimates

What is a Functional Performance Specification ?

Identifies:

- Your needs
- Associated functions
- Any constraints to the functions
- Assessment criteria (performance levels)
- Flexibility

What is a Functional Performance Specification ?



What is a Functional Performance Specification ?

Number	Function	Criteria	Level (target)	Flex
3	ensure quality of process			
3+1	verify functionality			
3.1	ensure quality of PDCS and ICS data			
3.1.1	assess integrity of field data collection			
3.1.1.1	monitor data	data checked	user defined such as: number of consecutive zeros, gaps	F1
3.1.1.2	monitor collection process	look at data being recorded communication acheived collect and retreive data	15 minutes yes or no yes or no	F1
3.1.1.3	generate failure reports	types of failures	to be defined such as loop failure, communication, processor, battery…	F2
3.1.1.4	show status of collection of permanent sites (pdcs and others)	communication acheived collect and retreive data validity of loop	yes or no yes or no yes or no	F1

How does FPS and Value Analysis assist clients and I.T.?

- enables clients to:
  - Systematically articulate needs
  - Quantify needs
  - Prioritize needs
- results in:
  - Fewer client changes
  - Shorter design times
  - Expectations matching needs
- provides:
  - Ability to better compare COTS solutions
  - Knowledge management

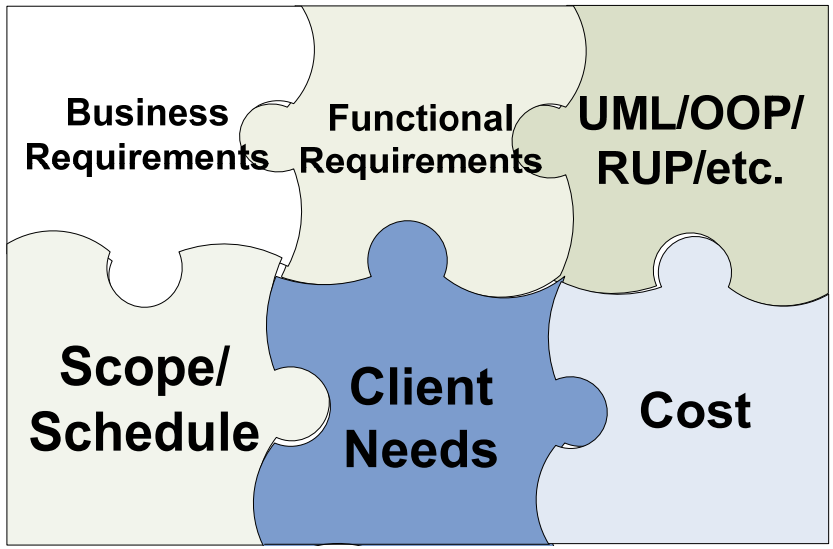
Working Together (Business Users, IT)

FPS is a process run by the business with IT providing their input as well

- IT is there to:
  - listen and to learn about the business needs
  - Identify any hardware or system platform restrictions
- Business Users are there to
  - Identify needs
  - Quantify and prioritize needs
  - Identify efficiencies

Working Together

- FPS workshops help connect user, stakeholder and IT needs

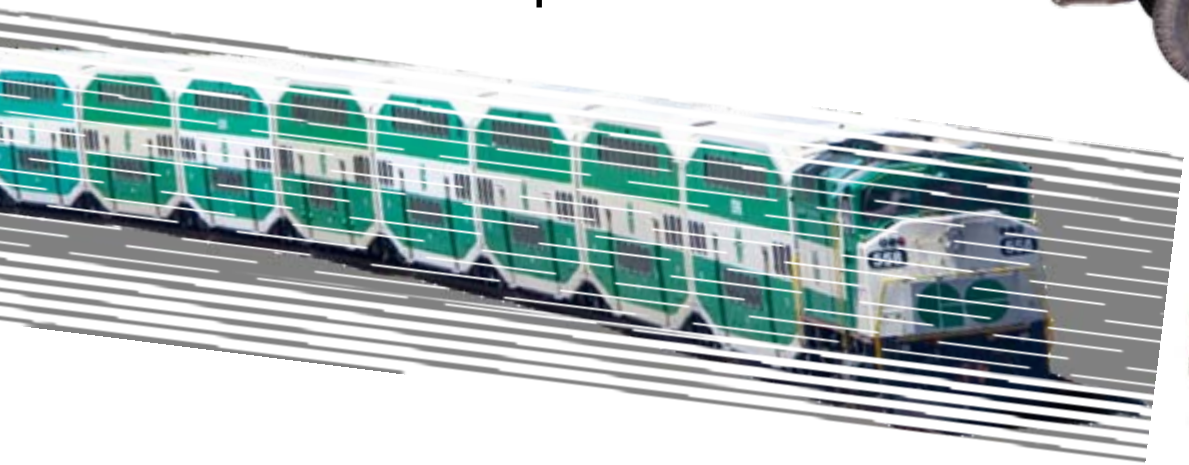


- The process helps teams to collectively generate a shared vision

Working Smarter – Identify Needs

- FPS presents a quick and systematic way to determine client needs.
- Client needs can be broken into functions without specifying a solution
- For transportation needs:

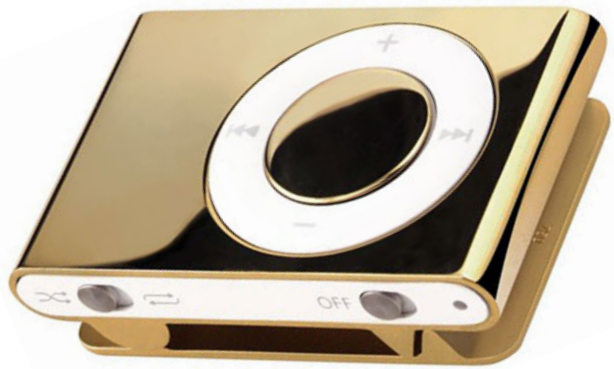
  “Move People”



Working Smarter

FPS helps:

- Identify and prioritize client requirements
- Avoid Gold Plating and Scope Creep



- Identifies efficiencies in process
- Can justify processes and technical requirements

Working Smarter – Performance Criteria

(The missing Ingredient from an IT requirements spec)

- Prioritize client needs by establishing performance criteria
- Criteria for a vehicle could include:
  - *Accommodate Passengers* - Minimum number passengers = 7
  - *Meet Operating Cost -* < 12L/ 100 km
  - *Look* Good - easy to clean

Working Smarter

- FPS gets the client, IT and users talking about the same project

- Helps to close the Gap between business and IT
  - Use Cases drop out of the FPS
  - Users can test against the FPS

FPS bridges the communication gap

Business Processes

INITECH

T.P.S. REPORT

COVER SHEET

Prepared By:_____ Date:_____

Device/Program Type:_____

Product Code:_____ Customer:_____

Vendor:_____

Due Date:_____ Data Loss:_____

Test Date:_____ Target Run Date:_____

Program Run Time:_____ Reference Guide:_____

Program Language:_____ Number of Error Messages:_____

Comments:_____

_____

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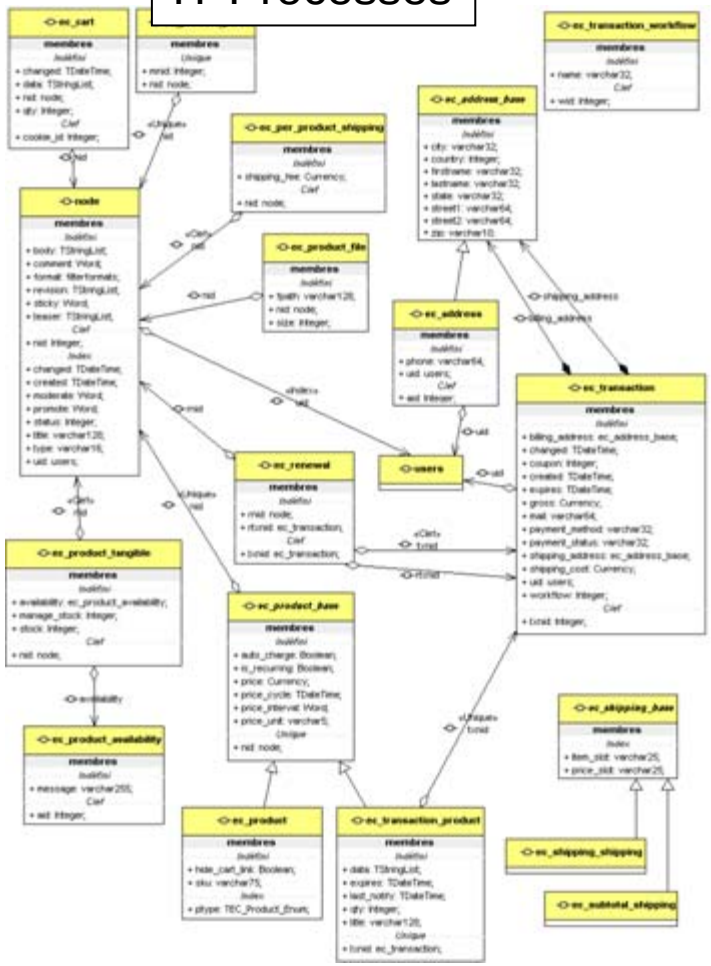
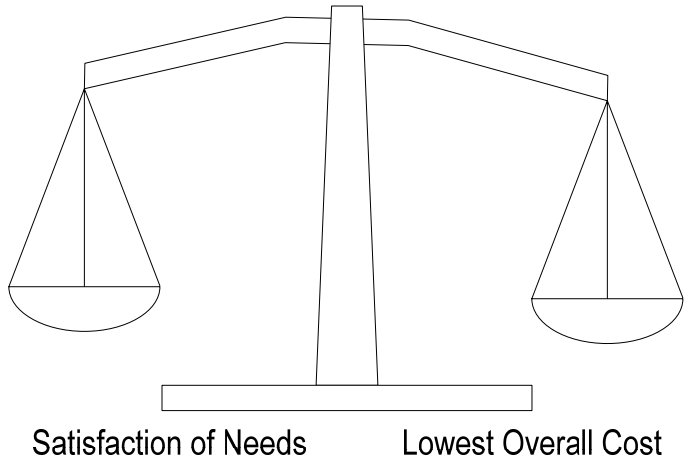
Value Engineering

IT Processes



Increase the Value by performing Value Analysis

- Helps separate the Needs from the Wants
- Place a value on manual processes
- Estimate the cost to automate the functions
  - Look at the function and the performance criteria



Function	Criteria	Level	Flexibility	Cost
Collect Volume Data	Interval for capturing data	Every second	F1	$500K
Collect Volume Data	Interval for capturing data	Every 15 minutes	F1	$50K

Drawbacks of FPS:

- **Takes considerable time up front by the business**
  - **Can be offset by reduced change requests to IT during development**
- **Requires workshops and coordination of stakeholders**
  - **However, it gets buy in from users**
- **Must ensure right people are in the room**
- **Is an Engineering Process that is unfamiliar to I&IT**

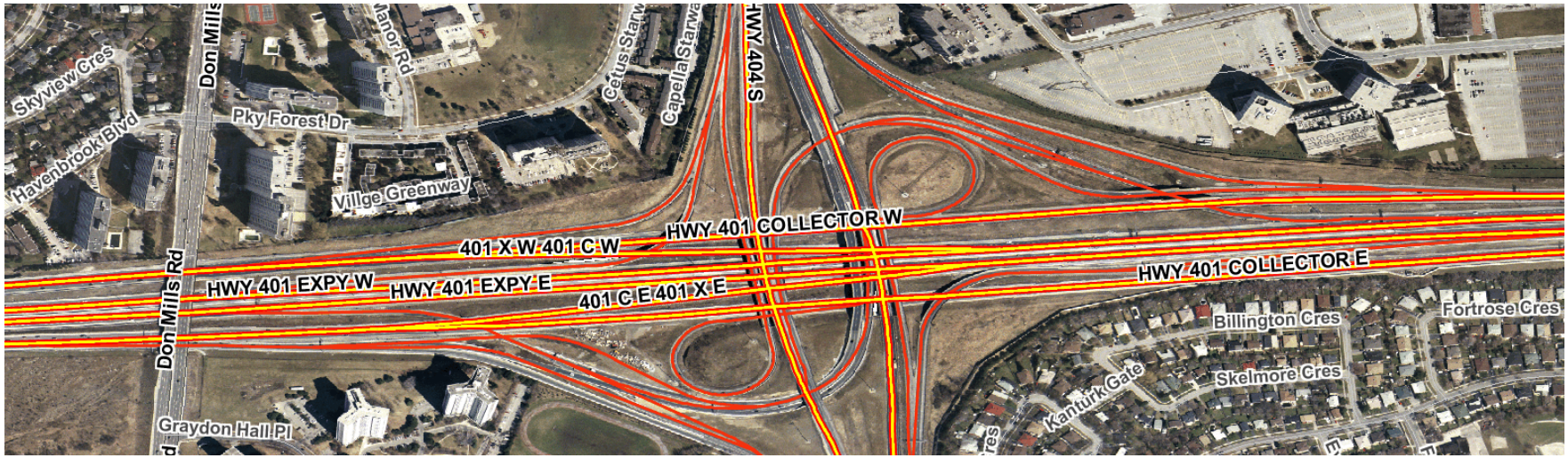
VE - FPS in I&IT at MTO

- Used to determine user needs on:
  - Traffic Volume Information System
  - Contract Services Management Portal
  - Geographic Information Systems Mapping Services
  - Location Referencing Services

Traffic Volume Information System II

Project Description	MTO applied VE tools in the planning of the Traffic Volume Information System II, an application solution that will store and provide information about provincial highways traffic volumes.
VE Objectives	To clearly define the functions, features, and goals of the application solution while gaining consensus amongst many stakeholders.
VE Results	Identification and characterization of functions based on criteria (how the function is accomplished), level (the acceptable result for each criteria), and flexibility (how much a level can be negotiated) for the required solution. This information was a tremendous asset and was used as the basis for an environmental scan, a decision to not purchase an off the shelf solution, and in the identification of use cases.

Geographic Information Systems Mapping Service Needs



Project Description	To identify business needs of next generation web mapping solution.
Objectives	To clearly define the functions, features, and goals of the application solution while gaining consensus among many stakeholders and establish priority features.
Results	Determined the functions, features and priorities for the application. Achieved a common understanding amongst many stakeholders of a reasonable value solution.

Questions?