

Statistical Programming Outsourcing KPI Dashboard

- A tool for better collaboration -

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Agenda

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- High Level Process Flow
- Modular Structure
- Dashboard Input
- KPI Library
- Reporting
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Introduction

Why do we outsource?

1. Reduce cost.
2. Business strategy (distribute risk).
3. Focus on its core competence.
4. Share the risk with third party vendors.
5. Access a flexible pool of skilled resources.

Risk and Pre-requisites.

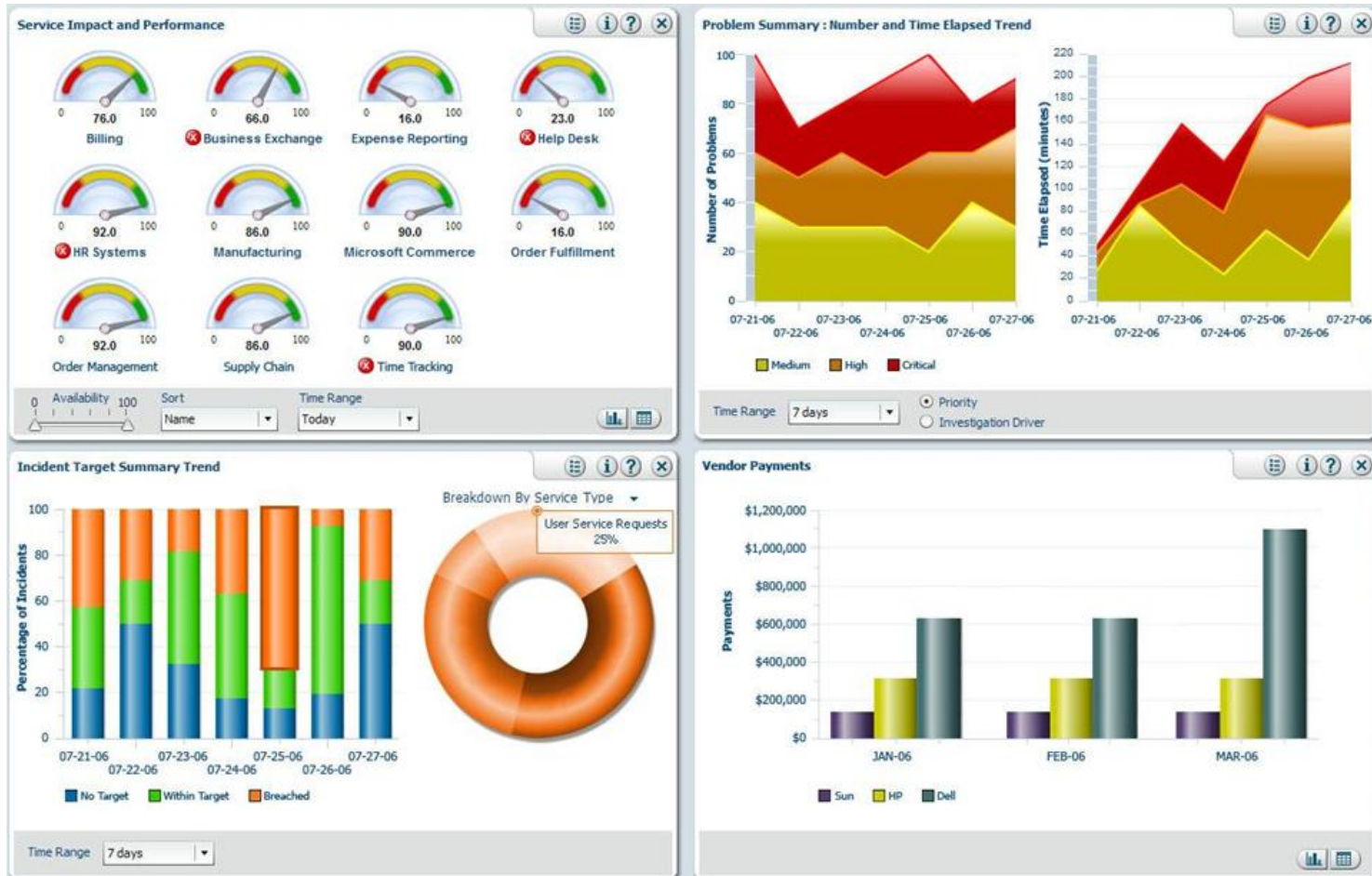
1. 📢 Risk of reduced quality (handovers).
2. 📢 Service-level agreement (SLA) to define and respect.
3. 📢 Key performance indicator (KPI) to measure outsourcing efficiency.

Tracking

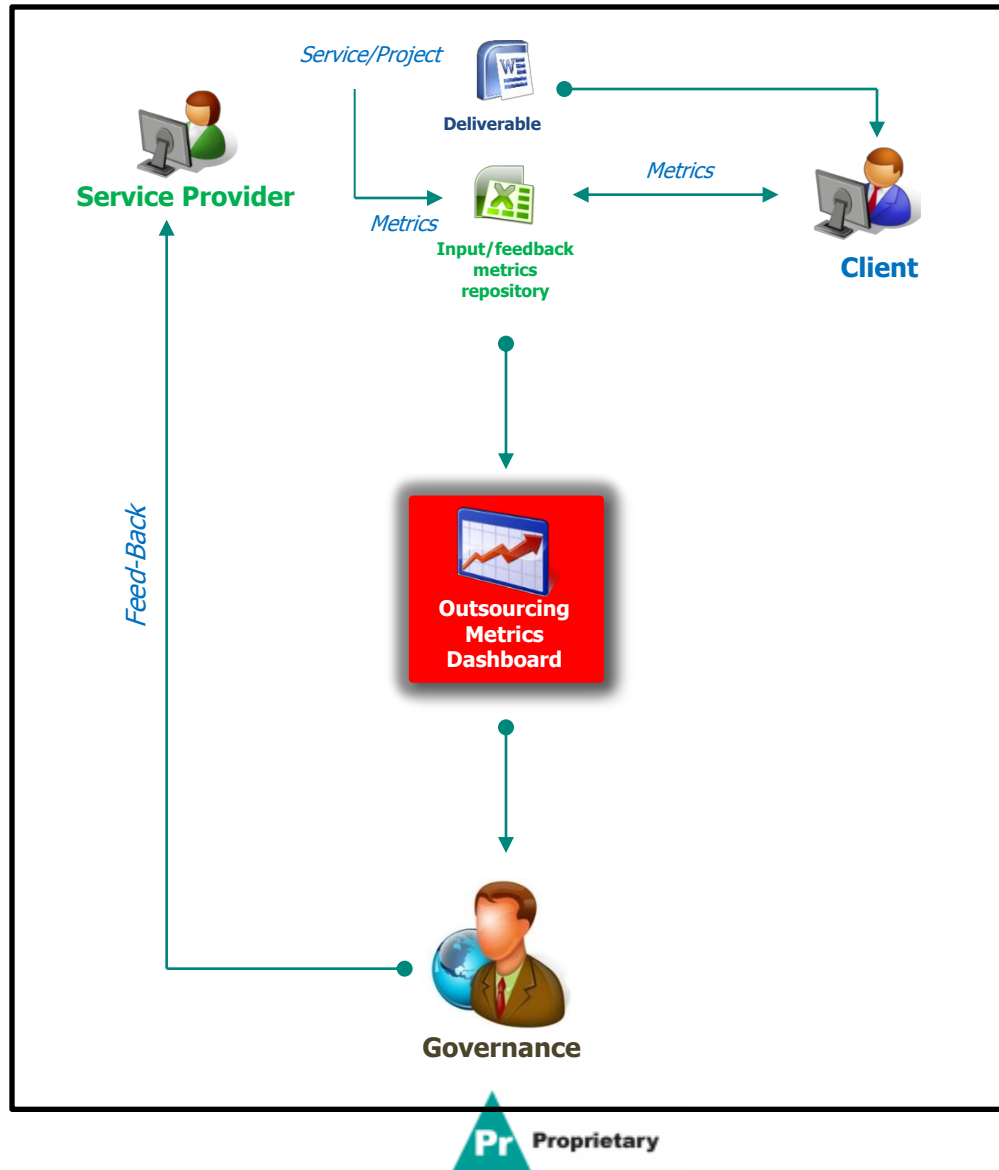
⇒ A Metrics Dashboard to measure and control the activity to the objectives.

Dashboard

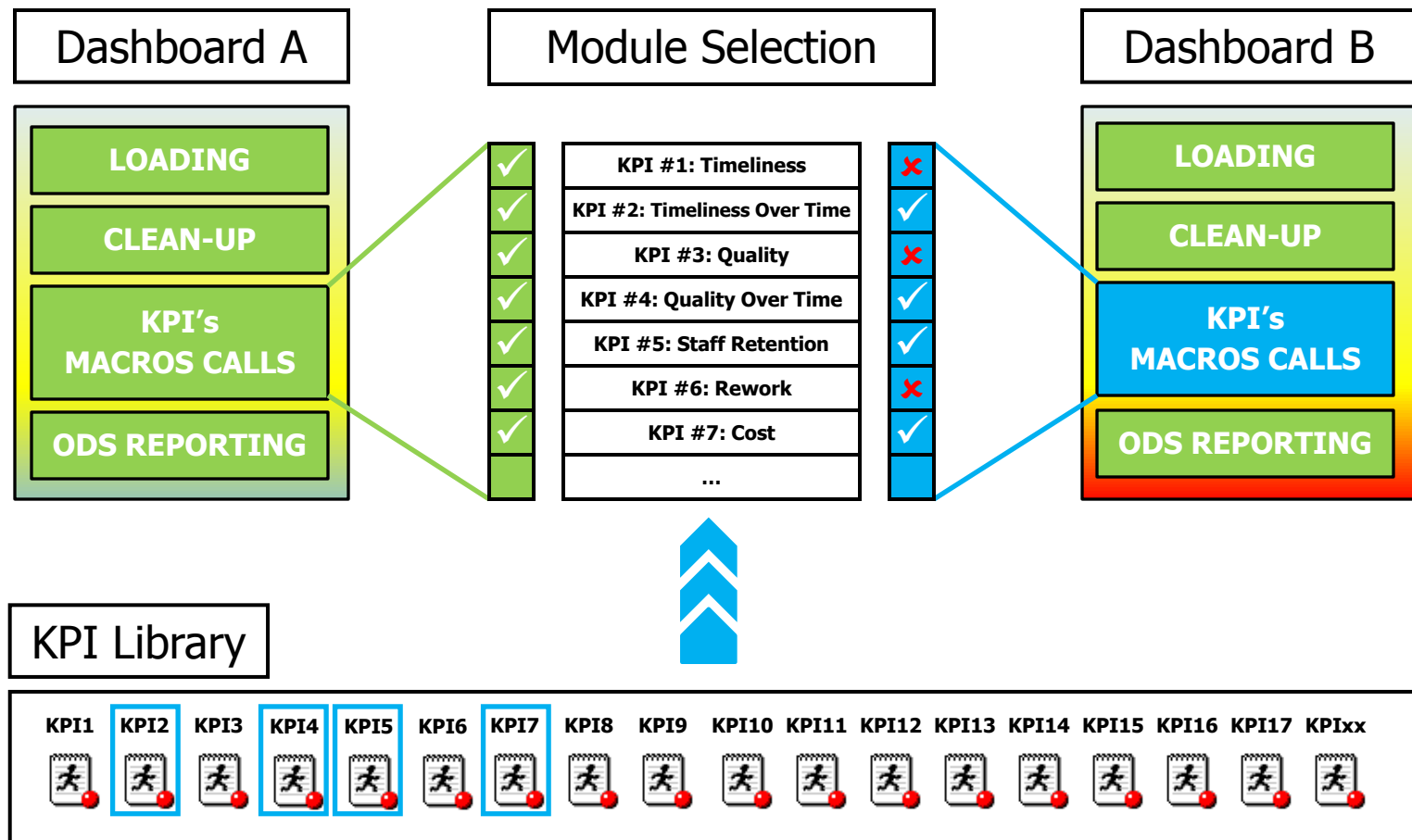
Example of dashboard



High Level Process Flow



Modular Structure



Dashboard Input

The Project Metrics Sheet

Partner	Compound Number	Protocol Number	Deliverable Type	Number of Item Deliverables	Target Start Date	Actual Start Date	Delivery Target Date	Delivery Actual Date	Partner resources spent on		Total Partner resources spent on those deliverables (Re-work incl.) (FTE days)	Quality as assessed by Merck staff
									Development (Re-work incl.) (FTE days)	QC (Re-work incl.) (FTE days)		
MyPartner	DUMMY	DUM4	Type1	12	2-Jan-12	2-Jan-12	4-Jan-12	4-Jan-12	0.3	1.125	1.425	2- good
MyPartner	DUMMY	DUM4	Type2	75	6-Jan-12	7-Jan-12	15-Feb-12	20-Feb-12	5	1.25	6.250	3- issues with numbers
MyPartner	DUMMY	DUM4	Type3	13	22-Feb-12	22-Feb-12	4-Mar-12	4-Mar-12	0.4	0.2	0.600	2- good
MyPartner	DUMMY	DUM5	Type1	29	5-Jan-12	5-Jan-12	20-Jan-12	24-Jan-12	0.35	1	1.35	2- good
MyPartner	DUMMY	DUM5	Type2	60	11-Jan-12	11-Jan-12	15-Feb-12	15-Feb-12	0.2	1.5	1.7	4- issues with code efficiency
MyPartner	DUMMY	DUM5	Type3	20	22-Feb-12	22-Feb-12	4-Mar-12	4-Mar-12	0.7	0.2	0.9	3- issues with numbers
MyPartner	DUMMY	DUM6	Type1	14	2-Feb-12	2-Feb-12	4-Feb-12	24-Feb-12	0.4	1.125	1.525	2- good
MyPartner	DUMMY	DUM6	Type2	90	6-Feb-12	7-Feb-12	15-Feb-12	15-Feb-12	2.5	1.5	4	2- good
MyPartner	DUMMY	DUM6	Type3	5	22-Feb-12	22-Feb-12	14-Mar-12	14-Mar-12	0.5	0.2	0.7	2- good
MyPartner	DUMMY	DUM7	Type1	1	2-Mar-12	2-Mar-12	4-Mar-12	4-Mar-12	0.75	1	1.75	2- good
MyPartner	DUMMY	DUM7	Type2	10	6-Mar-12	17-Mar-12	17-Mar-12	20-Mar-12	0.25	1	1.25	5- issues with SOP compliance
MyPartner	DUMMY	DUM7	Type3	98	17-Mar-12	18-Mar-12	31-Mar-12	31-Mar-12	0.25	0.25	0.5	2- good

KPI Library

KPI Library



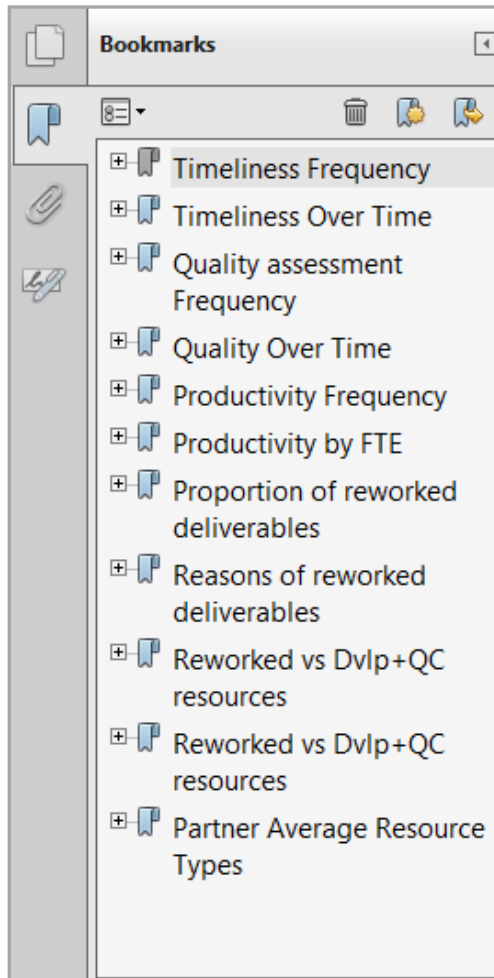
KPIxx



SAS Macros with similar interface to allow data selections or output fine-tunings.

Data selection	<u>Data selection parameters</u>	
	observation_where	= criteria used to select the input metrics to be summarized.
	timeunit	= time interval used to summarize the performance (e.g. monthly/weekly/quarterly).
Output fine-tunings	<u>Formatting parameters</u>	
	odsregion	= ods region statement to position the plot as part of the page.
	ymin	= minimum value of yaxis.
	ymax	= maximum value of yaxis.
	xaxis	= xaxis statement as in SAS graph format.
	subtitle	= subtitle.

Reporting: The Table Of Contents



The report is created in a PDF format which avoids any update of the charts or information displayed.

The PDF Dashboard is presented with its table of contents that offers the user an easy way to overview and go through the set of measured KPI's charts.

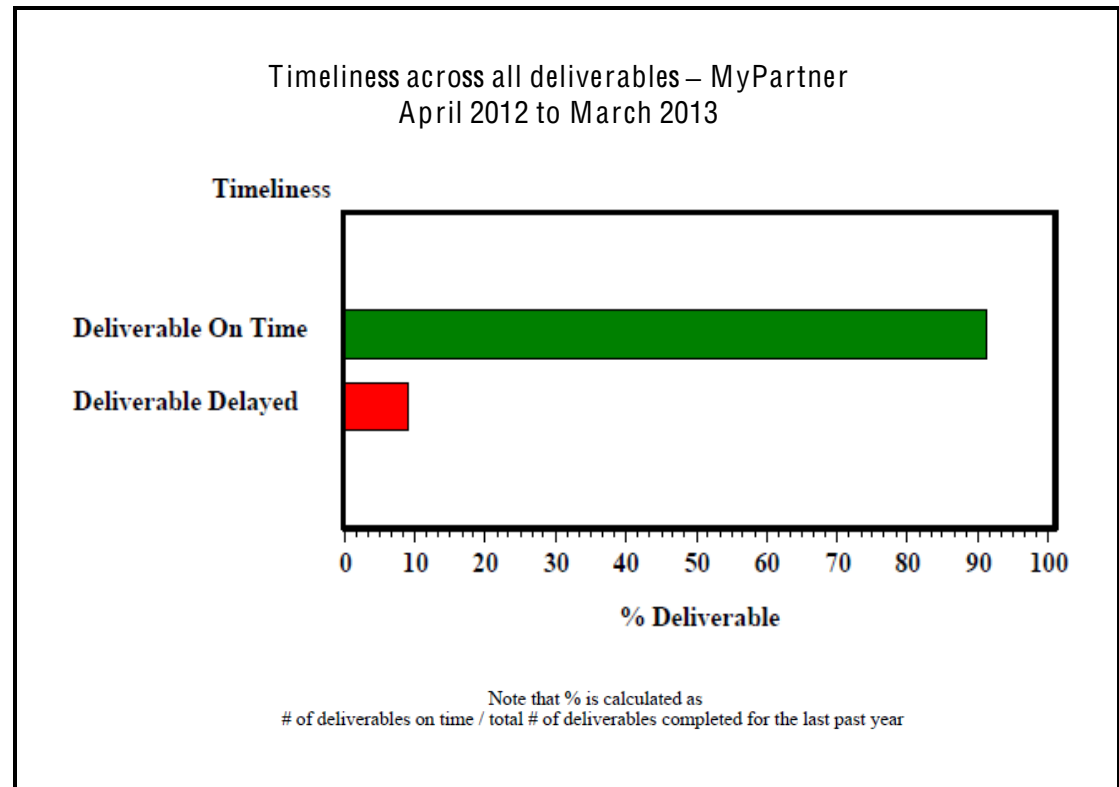
Reporting: The Charts

The Timeliness

This report displays the percentage of deliverables on time versus delayed.

This percentage is calculated as the number of deliverables on time divided by the total number of deliverables completed in the last year.

This KPI shows the partner's capacity to meet the timeline.

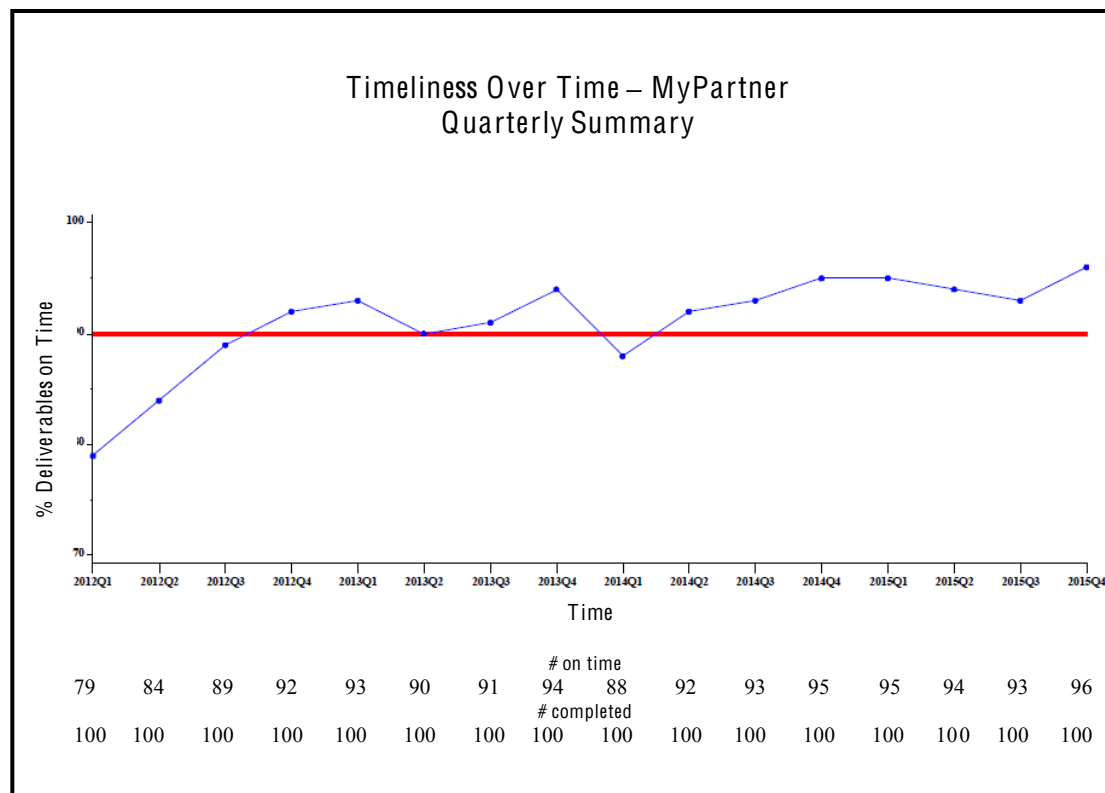


Reporting: The Charts (cont'd)

The Timeliness Over Time

The “Over Time” graph displays the timeliness of the service provided through the selected period calculated as the percentage of deliverables on time at each quarter.

This KPI shows the partner’s performance evolution over a defined timeframe, against an acceptance criterion (e.g. 90% on time) and provides a graphical view to identify the trend.



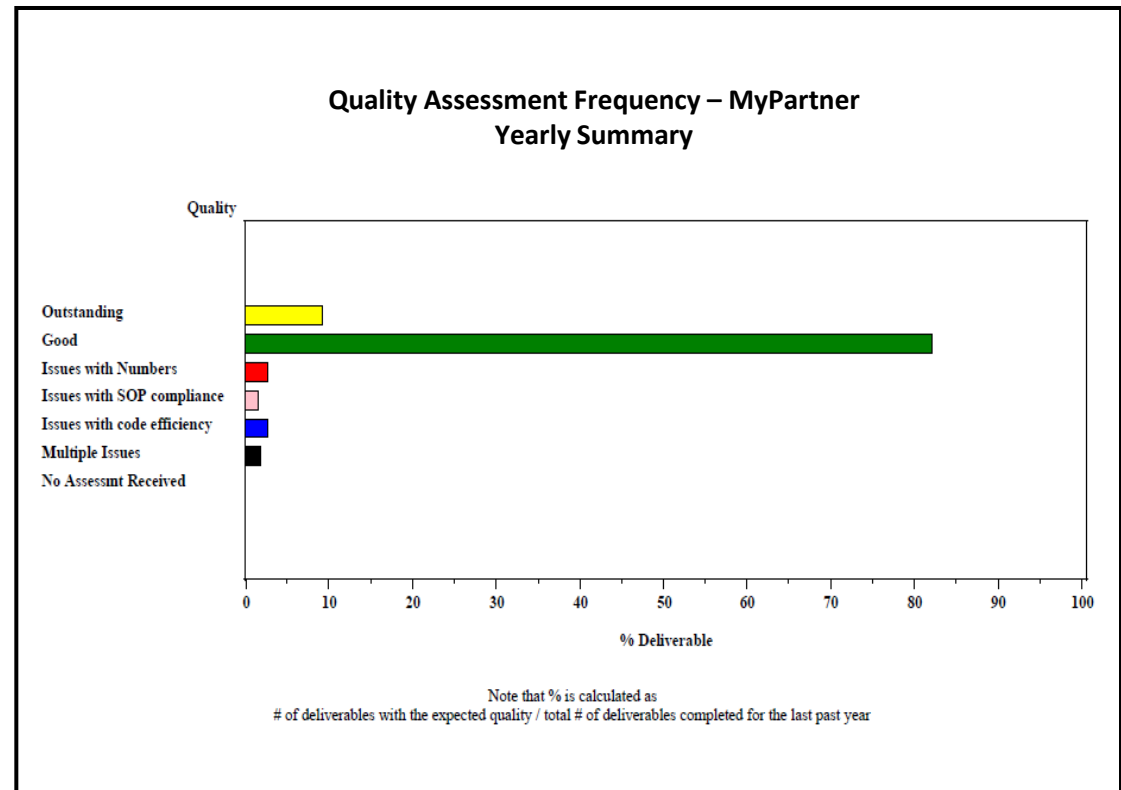
Reporting: The Charts (cont'd)

The Quality Assessment

This KPI is based on the feedback from the client.

The horizontal bar graph displays the percentage of deliverables for each category of quality assessment.

The percentage is calculated as the number of deliverables by the total number of deliverables completed in the last year.

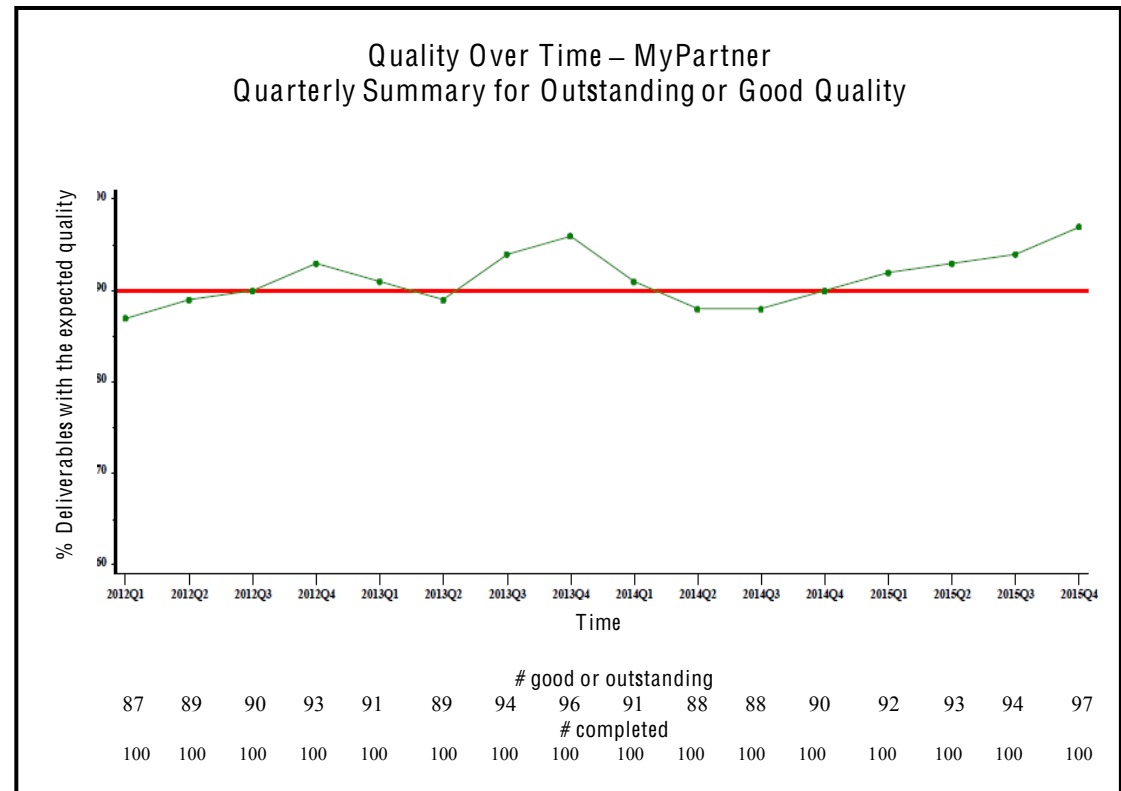


Reporting: The Charts (cont'd)

The Quality Over Time

The "Over Time" graph displays the quality of the service (as perceived by the clients as either good or outstanding) and is calculated as the percentage of deliverables at each quarter.

This KPI shows the partner's performance evolution over a defined timeframe, against an acceptance criterion (e.g. 90% good or outstanding) and its trend.



The Toolkit SAS code

```
* Load the project metrics sheets ;
*****;
%let msheet=%str( <location1>\Partnership Dashboard Input Metrics-<Partner>-<Stream1>.xls |
                  <location1>\Partnership Dashboard Input Metrics-<Partner>-<Stream2>.xls );

%loadinginput(msheet=&msheet,dsout=allinput);

* Clean the data ;
*****;

%cleanitup(partner=<Partner>,type=<TypeOfDashboard>,fa=<FunctionalArea>);

* Define macro parameters for the start and the end of the Timeframe of interest;
*****;

%let lowdate = <TimeframeLowLimit>;
%let update  = <TimeframeUpLimit>;

* Create PDF Dashboard ;
*****;

ods pdf file="//teamspace.merck.com/.../PartnersStreamsDashboard-&stream.-&sysdate..pdf"
startpage = on;
ods layout start;

options number;

*** Create a cover page ***;

%coverpage(version=<Version>,partner=<Partner> - <Stream>, user=<User>);

ods layout end;
```

Data
Loading

Data
Cleaning

Time
Window
definition

ODS
Output
Statement

Coverpage
creation

The Toolkit SAS code (cont'd)

```
*** The KPIS ***;
ods layout start;

%timefreq(      dsin          = allinput
                ,observation_where = <Deliverable_type_whereclause and Time_whereclause>
                ,subtitle         = %str(Yearly Summary)
                ,odsregion        = %str(x=0 pct y=0 pct height=40 pct width=100 pct)
                );

%timeliness(    dsin          = allinput
                ,observation_where = <Deliverable_type_whereclause and Time_whereclause>
                ,subtitle         = %str(Yearly Summary)
                ,odsregion        = %str(x=0 pct y=0 pct height=40 pct width=100 pct)
                );

%quality(       dsin          = allinput
                ,observation_where = <Deliverable_type_whereclause and Time_whereclause>
                ,quality_where    = <quality_whereclause>
                ,subtitle         = %str(Yearly Summary)
                ,odsregion        = %str(x=0 pct y=0 pct height=40 pct width=100 pct)
                );

(...)

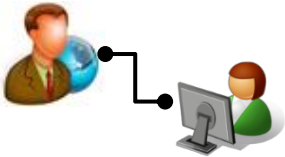
ods layout end;
ods pdf close;
```

KPI#1
macro
call

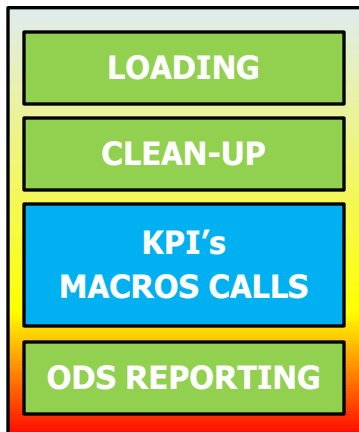
KPI#2
macro
call

KPI#3
macro
call

Conclusion



- Outsourced resources are more and more used in the pharmaceutical industry.
- An efficient collaboration needs a performance monitoring to evaluate and improve if necessary.
- This toolkit presents a way to create KPIs dashboards with a modular structure and different levels of granularity answering business needs.
- The KPI SAS library allows the user to build his own dashboard as needed.



Questions & Answers

