

- Spec 2000
Industry Performance
Metrics

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Agenda

- Why common industry metrics?
- Which metrics are included?
- Which metrics are “to be developed”
- Implementation Issues / Benefits
- Examples



The Problem

- How are my suppliers performing?
- How are my customers performing? Here's an example you may be familiar with:
 - I calculate my average Turnaround for a Shop Repair
 - I provide that average to a customer
 - My customer gives me their calculation
 - They don't match
 - Why?



Finding a Solution

Customer Perspective

Similar processes, different definitions, varied metrics, varied contract terms

Supplier Perspective

Similar processes, different definitions, varied metrics, varied contract terms, varied Customers

Parts Delivery						
	Chapter 13	Airline 1	Airline 2	Airline 3	Airline 4	Airline 5
Metric Name	Supplier performance to Customer Requirement Date	Supplier performance to Customer Requirement Date		Purchase Order Cycle time	Performance level shows how exact the distribution process is under control	Performance level shows how being achieves the material needs of LHT
Metric Start	Receipt/Acknowledge Customer purchase order	Receipt of PO with no financial implications		Order placed	Date of Delivery (agreed by Boeing and LHT via Spec 2000)	Statistical date of delivery (original demand date - specified shipping date)
Metric Stop	Schedule provided and shipment of part	Schedule provided and shipment of part (ACG 4 hours - Non ACG available to ship plus ship to day code)		Order received	SI shipped	SI shipped
Metric	Sum of orders shown as early within priority classified by delivery status indicator	Sum of orders shown as early within priority (ACG Work Stoppage, Route) divided by delivery status indicator - ACG has 2 metrics i.e. Schedule within 4 hours and Ready to ship within 4 hours		Average number of days from Analyst request/queue to order placed	Level of echness is measured by time difference (work stoppage priority - measured in hours)	Level of achievement LHT's demand date is measured by time difference (work stoppage priority - measured in hours)
Formula	FCR % = (FCI where DS 1-7/CS) x 100				Early to Specified shipping date (Demand date) in hours	Early to Specified shipping date (Demand date) in hours

Standardization
Simplification

Six Key Processes

Component Reliability
Component Repair
Parts Delivery

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Product Support Data
Warranty
Technical Resolution

Performance Report	Purpose	Criteria is based on:	Elements	Green	Yellow	Red
OEM Supplier (Boeing) Supplier Scorecard	To provide statistical information of Supplier Designed Equipment Manufacturers post delivery support to airlines and to obtain supplier commitment for continuous improvement.	Product Support requirements	Varies by Trading Partner	As defined by the contract terms and conditions	As defined by the contract terms and conditions	As defined by the contract terms and conditions
ATA Guidelines	Designed to foster a clear understanding of <customer and supplier responsibilities and encourage the establishment of policies consistent with the objectives <-in the ATA spec->	Basic policies of the Material Management committee of the ATA, AEA, CCMA, OAA, and other airlines around the world	World Airline Suppliers Guide (WASG); Common Support Data Dictionary (CSDD); Spec 2000	As defined by the contract terms and conditions	As defined by the contract terms and conditions	As defined by the contract terms and conditions
Trading partner agreements	To provide statistical information of Supplier Designed Equipment Manufacturers post delivery support to airlines and to obtain supplier commitment for continuous improvement.	Negotiated terms and conditions	Varies	Varies based on criteria established by airlines	Varies based on criteria established by airlines	Varies based on criteria established by airlines



Spec 2000 Chapter 13

- [-] Chapter 13. Performance Metrics Standards
 - [+] 13-1. Overview Spec 2000 – Chapter 11
 - [+] 13-2. Component Reliability Spec 2000 – Chapter 7
 - [+] 13-3. Component Repair Spec 2000 – Chapter 7
 - [+] 13-4. Parts Delivery Spec 2000 – Chapter 3
 - [+] 13-5. Product Support Data iSpec 2200, S1000D
 - [+] 13-6. Technical Resolution n/a
 - [+] 13-7. Warranty Spec 2000 – Chapter 14



So what is in the chapter?

- Specific Definitions that were agreed to by a consensus of customers and suppliers
- Specific “Start” and “Stop” times within a process flow are clearly defined
- Sometimes a choice of several metrics to meet different objectives, but each have specific agreed to start and stop times



So what else is in the chapter?

- Data exchange formats to provide “underlying data” that was used in calculating the metrics
 - This allows common baseline
 - Also, importantly, allows joint customer and supplier problem analysis and resolution
 - Helps identify business process improvement opportunities
 - For yourself
 - For your trading partners
- Format is in standard Spec 2000 XML that converts easily to Excel, allowing analysis with a minimum of IT investment



Metrics Included

Function	Metrics
Reliability	Mean Times, Cycles (MTBR, MTBUR, etc), No Fault Found Rate
Repair	Performance to Repair Agency Processing Time Commitment, Performance to Adjusted Repair Agency Processing Time Commitment
Parts Delivery	Supplier Performance to Customer Requirement Date, Supplier Shipping Performance (Includes Priority & Early/On-time/Late)
Product Support	Data Revision Incorporation Percentage
Warranty	Average Warranty Claim Response Time, First Time Claim Resolution Rate, Avg. Disputed Claim Response Time
Technical Resolution	Cycle Time for Technical Issue Evaluation, Study, Solution Incorporation, Effectiveness



Metrics to be Developed

Function	Metrics
Reliability	Dispatch Reliability, Delay Rate, Schedule Reliability, Cancellation Rate, MTTF, Component URR, PIREP Rate
Repair	End-to-End Turnaround
Parts Delivery	Performance to Lead Time, End-to-end demand fulfillment
Product Support	Quality
Cost	Maintenance Cost, Service Levels, Cost per Available Seat Mile, Value of denied vs. honored claims, etc.
Quality	Data, Inspection, etc.



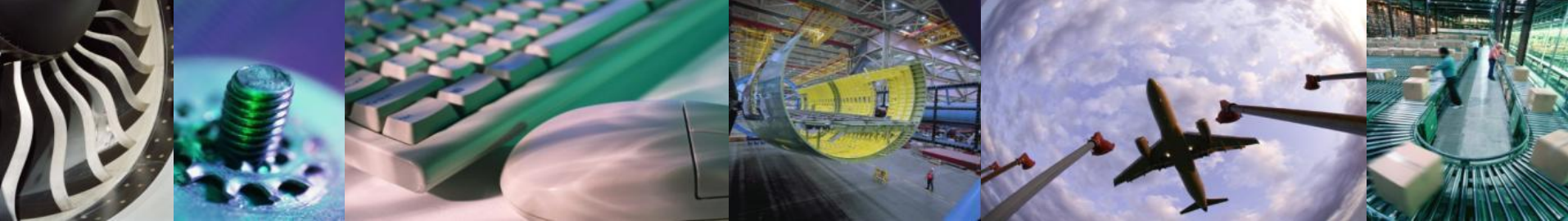
Issues Discovered

- Many older systems work only on date, rather than date/time
- “Customer Overrides” are being discovered requiring business case evaluation (e.g. Shipping Methods)
- “Holds” due to customer performance are being discovered (e.g. financial holds, holds for additional customer data)
- Population size and type affect variation in month-to-month comparisons



Benefits

- Single agreed-upon definitions allow broader implementation for multiple trading partner relationships without rework
- Common method of data exchange
- Expose business process issues that could be improved
- Expose misunderstanding of trading partner business processes that could be jointly improved
- Implementation has led to better trading partner performance
- Inventory optimization can be facilitated



-
- Let's have a closer look at parts delivery



Setting the Standards

■ Chapter 13 delivering benefits like:

- **Consistent metrics enabling comparison of trading partners and competitive benchmarking**
- **Reduced reconciliation effort**
- **Efficient utilization of labor through one common method of measurement**
- **Timely information exchange between trading partners**

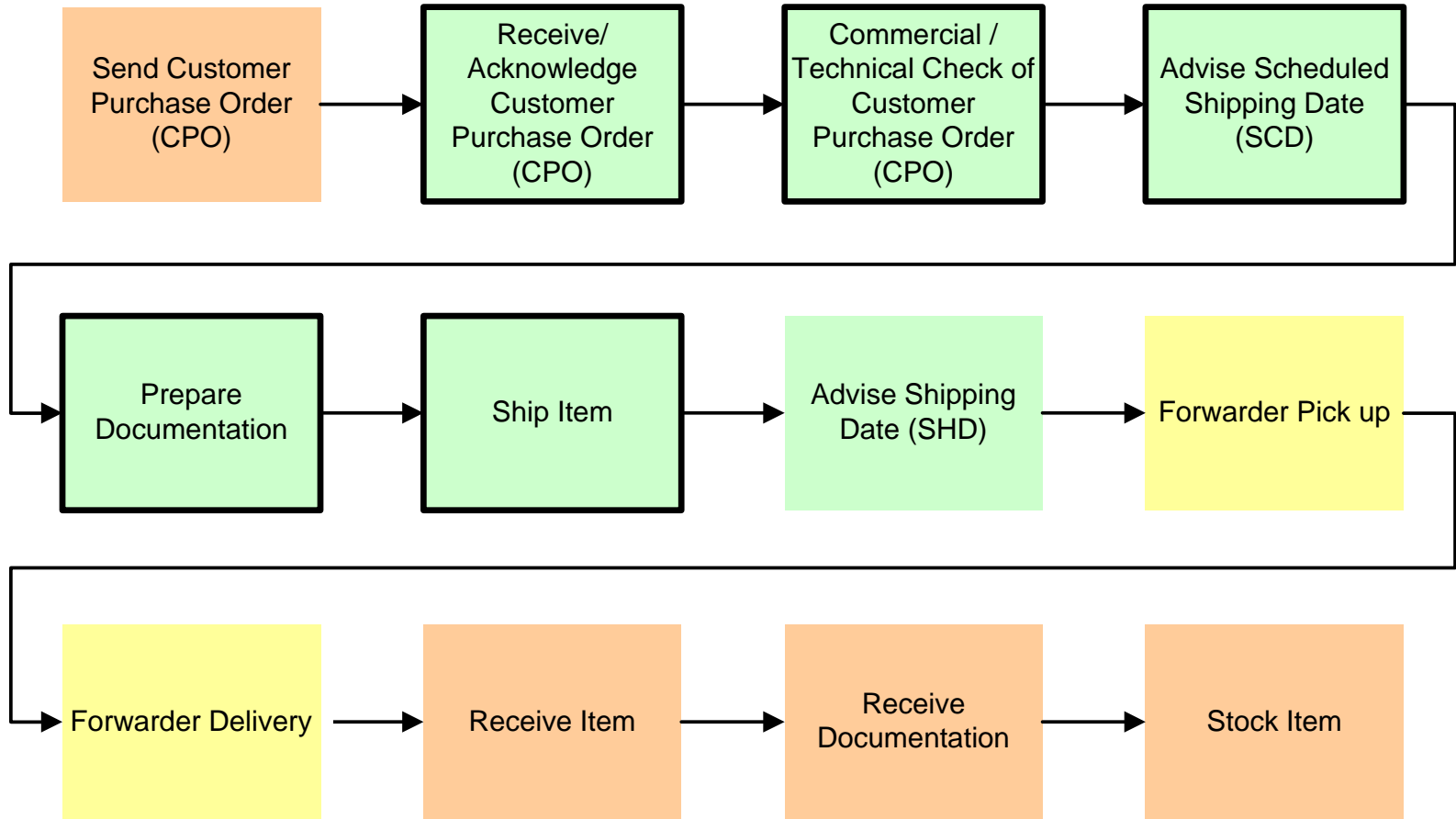


Reporting

- **Against the Specified Shipping Date (SSD)**
- **SSD of the customer might have been adjusted because of reasons indicated by the Target SSD indicator**
- **Each shipment of a purchase order will be measured separately**
- **In the month of actual shipment**
 - **or as an option in the month of SSD**
- **Data will be provided in XML format for further processing**



Parts delivery



Ship Item = Box closed & documents ready

LEGEND

- Part Delivery Process
- Customer
- Supplier
- Transportation Agent



Timeline

Update of ATA SPEC 2000 and release expected by 1st Q/2009



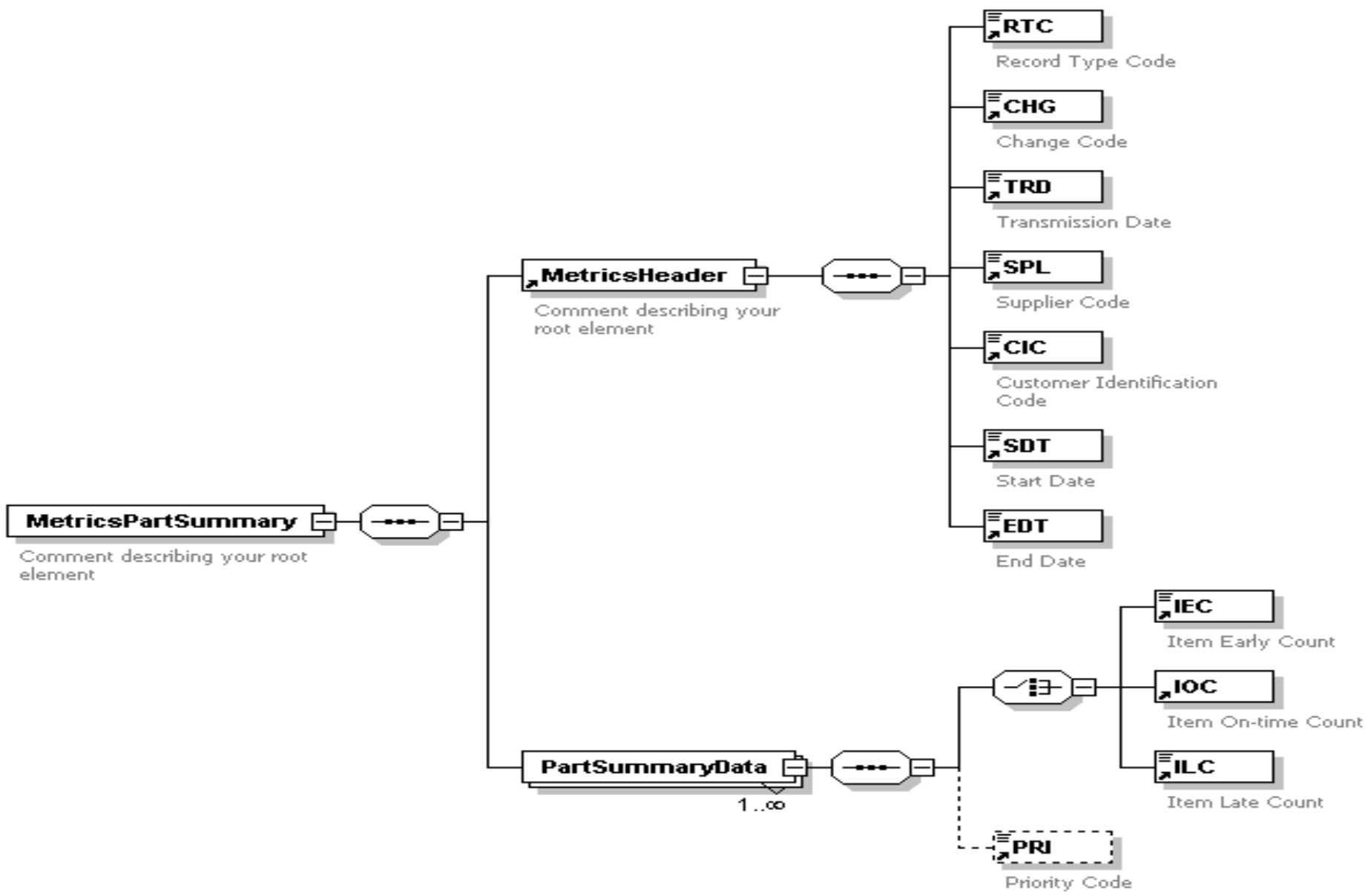
Part delivery–Part summary data

- **MetricsHeader**

- ...
- **Supplier**
- **Customer**
- **Start & end date**

- **PartSummaryData**

- ...
- **ItemEarlyCount**
- **ItemOn-timeCount**
- **ItemLateCount**
- **Priority**





New data elements

- **Target SSD indicator (SSI)**

Indicates the type of adjustment that was made to the Specified Shipping Date (SSD)

- 1 Shipping instructions override**
- 2 Time zone adjustment**
- 3 SSD prior to Order Date (ORD)**
- 4 Holiday adjustments**
- 5 Other**



New data elements

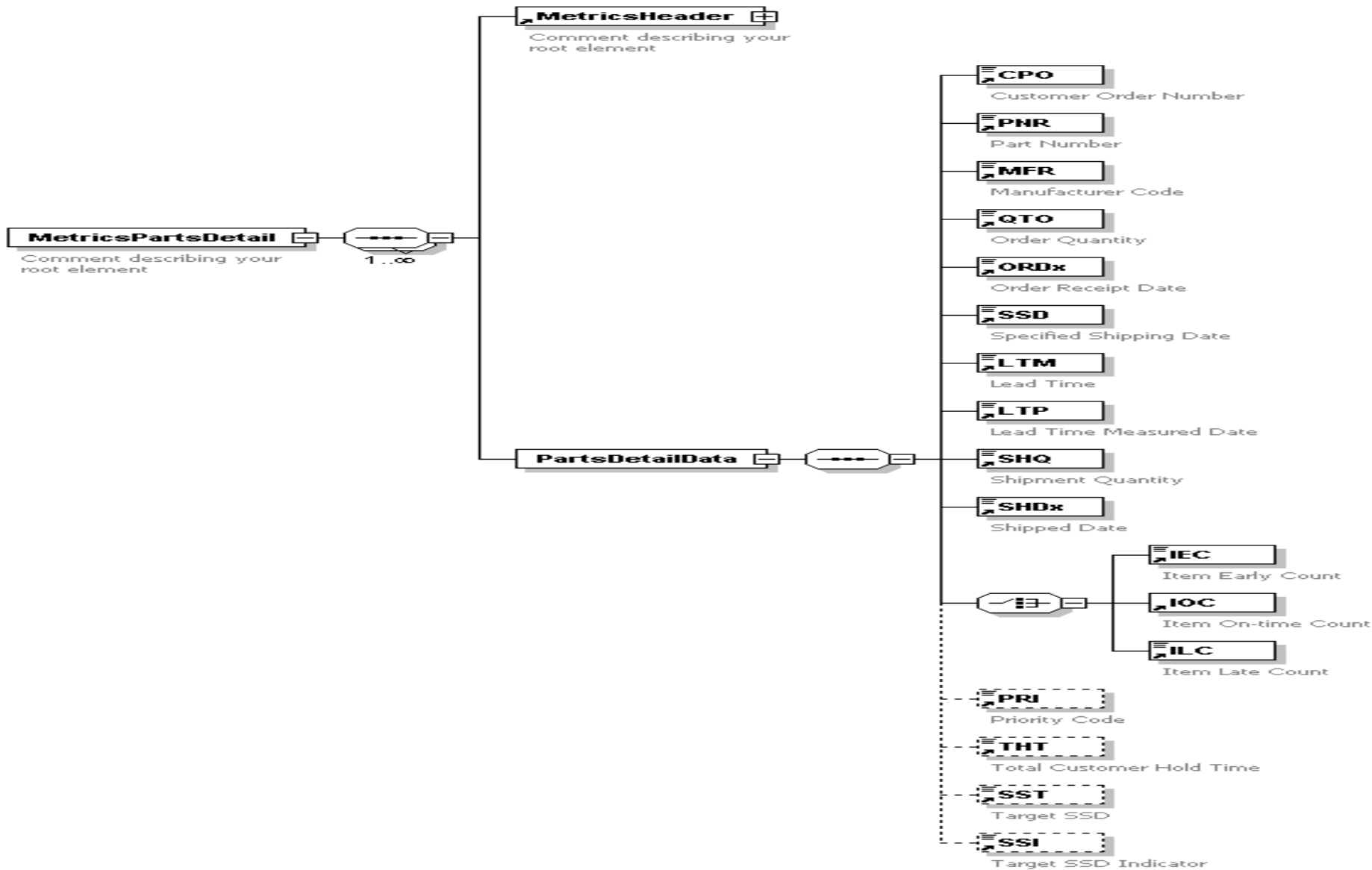
- **Target SSD (SST)**

The adjusted date of the customer's required specified shipping date (SSD) due to reasons specified by the Target SSD indicator.



Part delivery – Part detail data

- **MetricsHeader**
- **PartDetailData**
 - **CPO**
 - **SSD**
 - **ORD + time**
 - **.....**
 - **SHD + time**
 - **Item Early Count**
 - **Item On-time Count**
 - **Item Late Count**
 - **Target SSD Indicator**
 - **Target SSD**

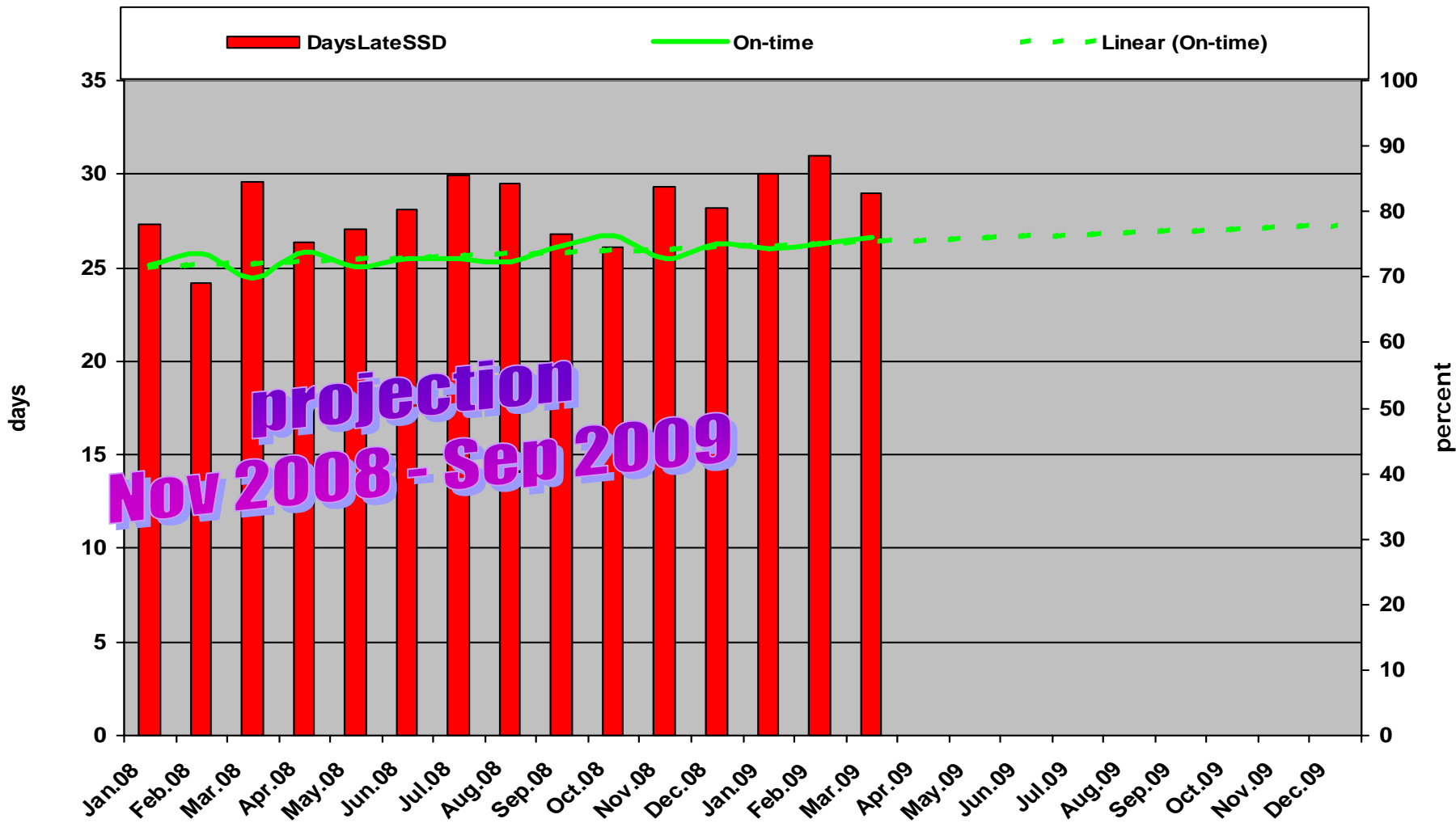




How could it look in future ?

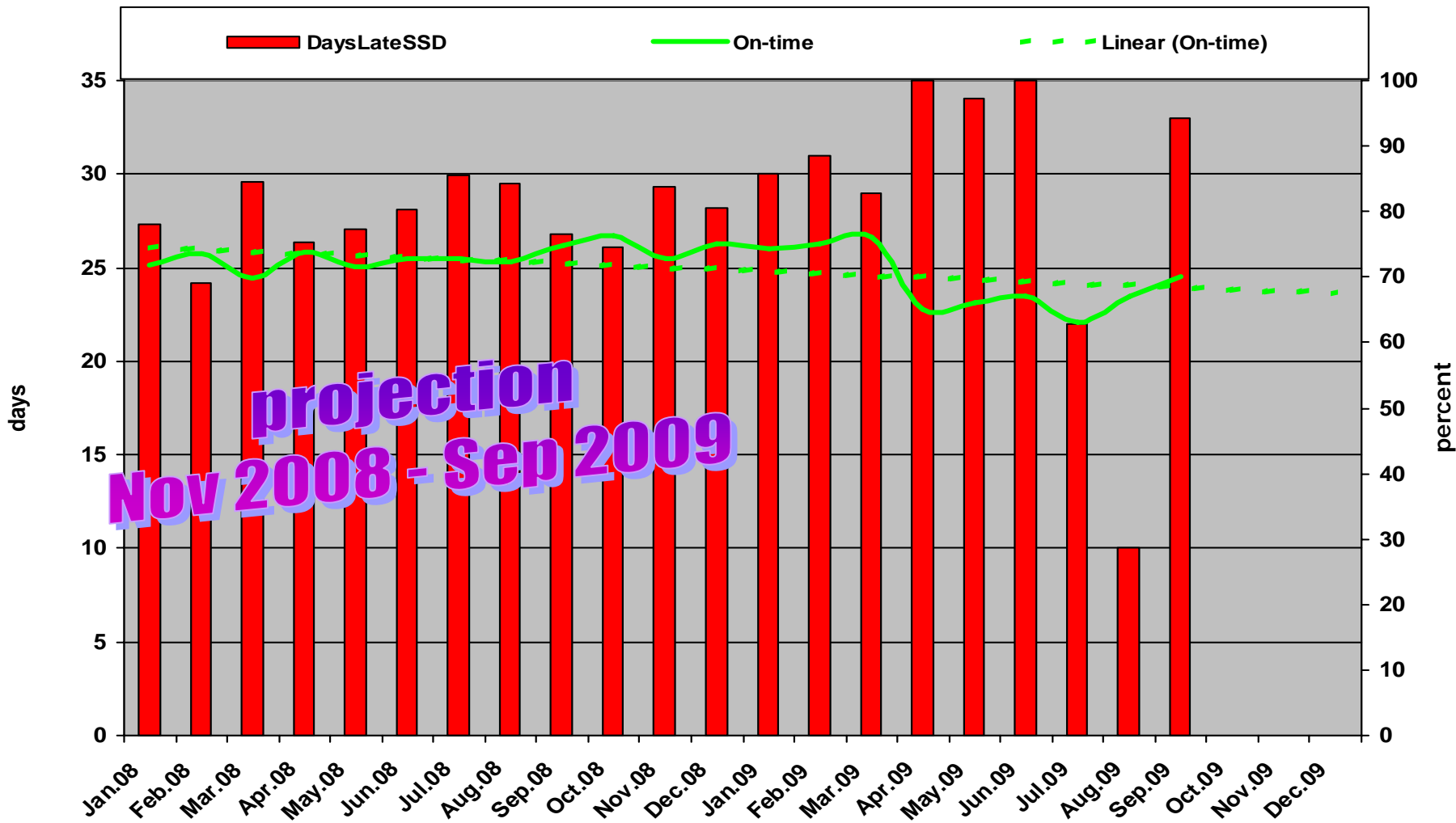


On-time delivery & average days late



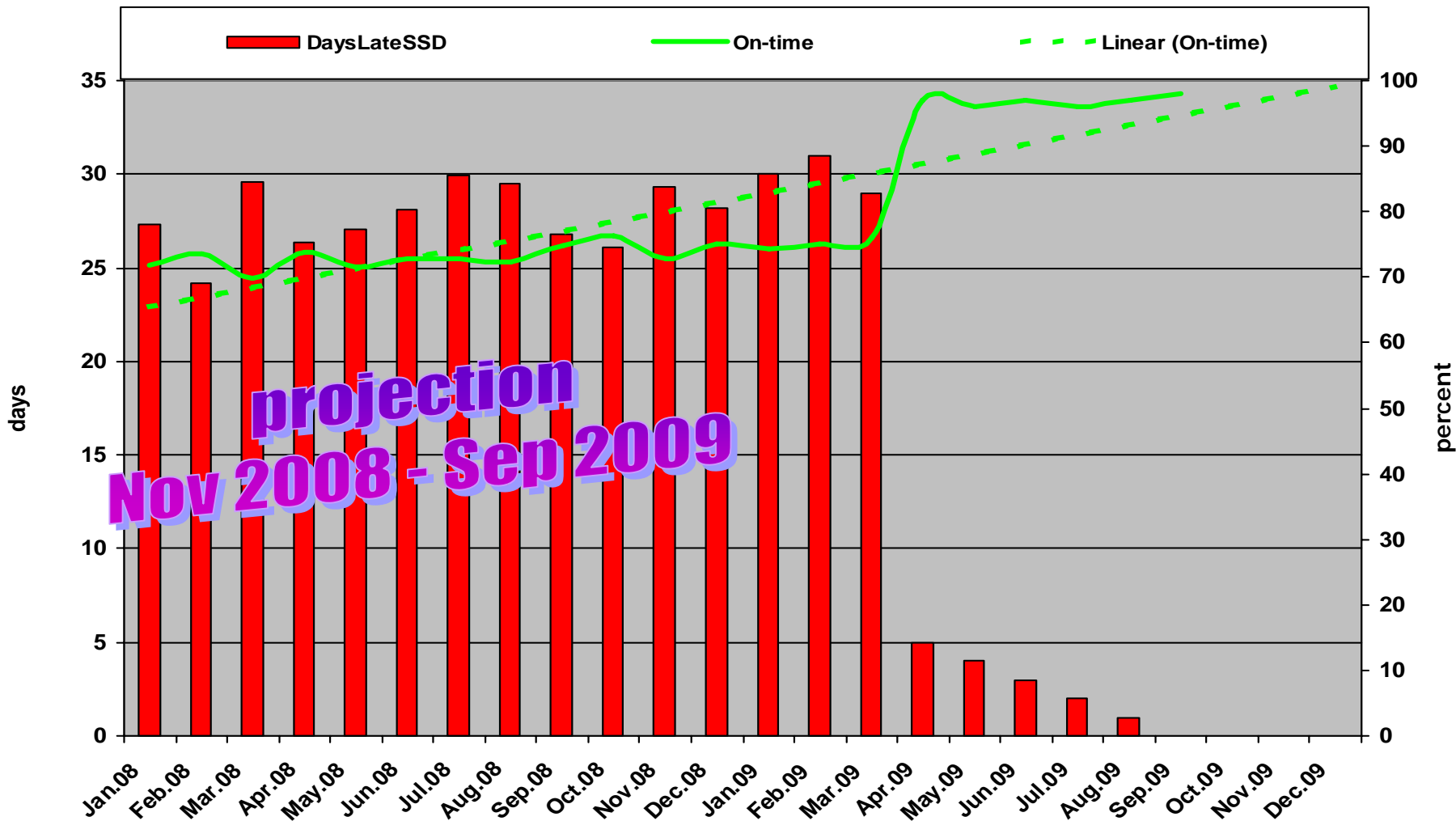


On-time delivery & average days late





On-time delivery & average days late





The result is important

but

not to have to argue about the result is even more important



Thank you for your attention

- Any questions?