



Gies Business

BADM 567: Process Management

Module 8: Designing Improvements and Sustaining Changes

Gati

GM Powertrain

Gopesh Anand

Related to Earlier Concepts (from WSJ 02/27/23)

I

Ticket for Coffee Shop Frustration: Ordering Black Coffee

Plain-pour drinkers are a rare and frustrated breed. Simple orders can wind up stuck behind a jam of customized concoctions.



https://www.wsj.com/articles/stump-your-barista-order-black-coffee-98d98f63?mod=itp_wsj&mod=djemITP_h

Today's Session

Process Capability and Control

Gati Shipments

Learning Environment

Sustaining PI

GM Powertrain

Course wrap-up

Gati: Achieving Quality Excellence in Shipment Delivery

Context of Gati

Logistics Sector in India

Opportunities

- Rapid growth

Challenges

- Weak infrastructure

- Underdeveloped IT

- Confusing regulatory environment

- Dearth of trained people

Gati's Operations

Third party logistics provider

Over 6,000 ISO certified vehicles

Multi-modal shipments

Targeting 1 million daily packages

Seeking zero delays and zero damages

How would you describe Gati's business environment?

Complex

Variable

Process Capability

- Guarantee of delivery within 72 hours
- Only upper specification that matters
- Process mean is 38.5 hours and s.d. is 7.8 hours

$$C_{pk} = \frac{\text{Upper specification} - \text{Mean}}{3 * \text{Standard Deviation}}$$

$$= \frac{(72 - 38.5)}{(3 * 7.8)} = 1.43$$

**Process is capable,
and at about 4 sigma**

Going Beyond*: Chance of Delivery Time Exceeding 72 hrs.

I

=NORMSDIST(4.29)
= 0.999999126



= 1 - NORMSDIST(4.29)
= 0.000000874
= 0.000874 per cent
= 8.74 per million

$$z = \frac{\bar{x} - \mu}{s.d} = \frac{72 - 38.5}{7.8} = 4.29$$

*These calculations of z score and probabilities will not be covered on any assignment or quiz or exam in this course.

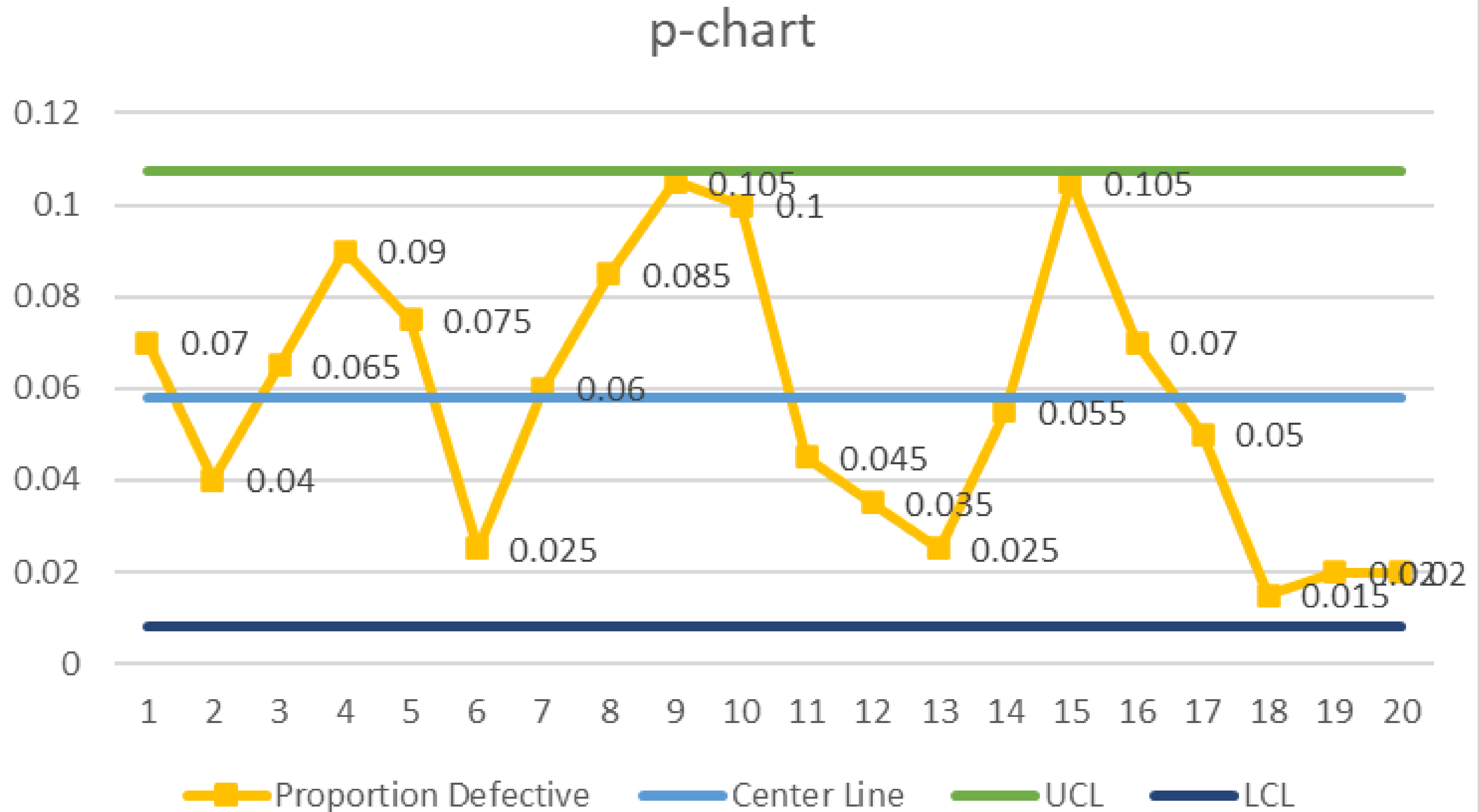
Deliveries with Complaints



Week	Deliveries	Complaints		Week	Deliveries	Complaints
1	200	14		11	200	9
2	200	8		12	200	7
3	200	13		13	200	5
4	200	18		14	200	11
5	200	15		15	200	21
6	200	5		16	200	14
7	200	12		17	200	10
8	200	17		18	200	3
9	200	21		19	200	4
10	200	20		20	200	4

Control Chart

	Proportions	Out of 200
CENTER LINE	0.05775	11.5
UPPER CONTROL LIMIT	0.10723406	21.4
LOWER CONTROL LIMIT	0.00826594	1.7



Interpreting Control Chart

Are all the sample proportions within the control limits?

Yes.

The process is in Statistical Control.

How do we interpret the limits?

In the current state of the process, expect to find between 2 and 21 complaints in 200 deliveries.

Learning Environment

Video of Chocolate Packing Process I

Watch this video (3 minutes and 4 seconds)



<https://www.youtube.com/watch?v=WmAwcMNxGqM>

Pay attention to...

the supervisor's handling of the situations throughout
the employees' reactions to management practices

Breakout #1: Observe...

Is there a standard provided to the workers for what they are doing?

Do the workers have any idea of the processes before and after their stations?

What is the mechanism to call for help as problems occur?

What is the avenue taken by employees when there is no avenue for process improvement?

Breakout #1 Reflection



Let's Reflect!

As the supervisor or in upper management,
what would you do?

At Walgreens, Complaints of Medication Errors Go Missing

(New York Times, Feb. 21, 2020)

I



<https://www.nytimes.com/2020/02/21/health/pharmacies-prescription-errors.html>

‘Downfall’ documentary casts the tale of Boeing’s 737 MAX debacle as tech tragedy I

(GeekWire, Feb. 19, 2022)



Case Analysis



Work Culture at Fredericksburg Plant

Unionized plant – UAW

Small town atmosphere (contrasted with Detroit)

Highly skilled, motivated, and experienced

Used to overtime work hours

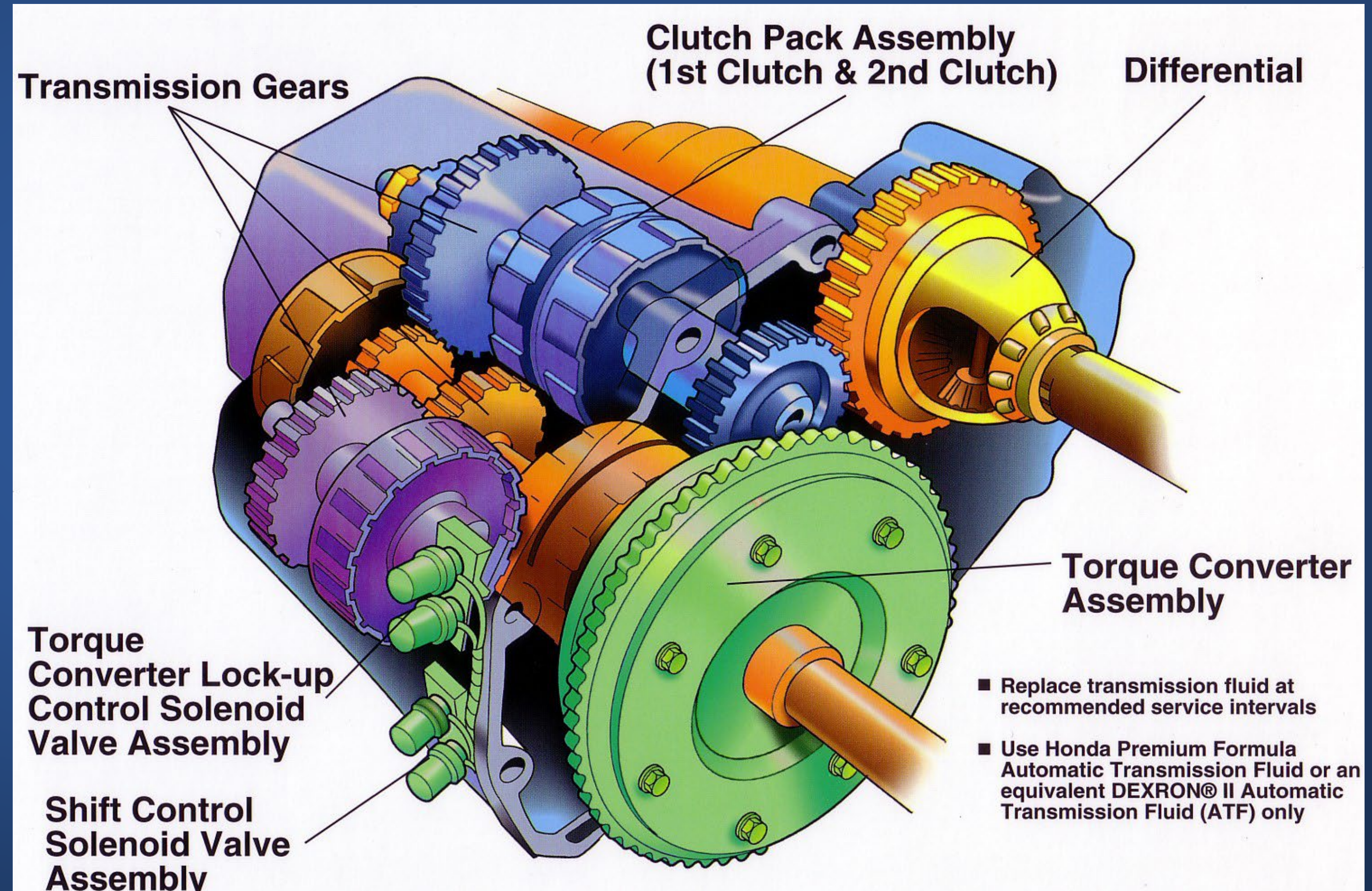
Role of Plant in GM Supply Chain



Supplier of TCCs for
GM's automatic
transmissions

22,000 TCCs in 26
models each day,
three shifts

Shipped daily to four
Michigan plants and
weekly to France



1996 -1997 Conditions at Plant

Then performance:

Not expected to make 1996 budget

Ripple effect of supplier and customer network:

Strike in Dayton, OH

Current State (February 19, 1997)

Described by Hinrichs



Piles of Work in Progress

Machinery being dismantled and installed

Unexpected problems impeding changes

Breakdown of 1500 ton press

Analysis



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What did Joe do after coming to the plant?

How would you describe his style of management?

What Did Joe Do?

Handling of strike

Recently adopted technology and QS 9000

Continuous improvements

Change Process

What was his change strategy?

- Listening and talking

- Involvement while retaining ultimate responsibility

- Small changes punctuated by breakthroughs

Sustainability of Change

Are the changes sustainable?

Yes, because he has buy-in

No, because there is no systematic infrastructure

Is it leadership or management?

Focus on managing change or producing consistent results? (Kotter, 1996)

Management Style

Tie future of employees to future of plant:

Gain their **trust** in him as a leader

Provide **support** for employees

Use **stretch** goals for improvements

Emphasize **discipline** for process control

[These four elements have been identified as vital for transforming behaviors in organizations (Bartlett and Ghoshal, 1989)]

Joe Hinrichs

Joined Ford in December 2000 as plant manager of a Transmission Plant in Sterling Heights, Michigan.

Rose to President of Ford Motor Company

Retired at age 53 on February 7, 2020

2013 Fortune Magazine Businessperson for the automotive industry

2013 Shanghai Pudong Businessperson of the Year



Tensions in Operations and in Process Improvement

Transparency to managers

Transparency to customers

Control and autonomy

Standardization and learning

Bernstein, E. (2014). The transparency trap. *Harvard Business Review*, 92(10), 58-66.

Spear, S., & Bowen, H. K. (1999). Decoding the DNA of the Toyota production system. *Harvard business review*, 77, 96-108.

Leadership for Change

Making meaningful purpose a genuine priority of business operations

The “human magic” of empowered and self-directed employees

Admitting you don’t have all the answers is a sign of strong leadership.

<https://hbr.org/2021/12/former-best-buy-ceo-hubert-joly-empowering-workers-to-create-magic>

<https://youtu.be/KtiUMAYOcG8>

On Current Issues

Remote and flexible work

Diversity-Equity-Inclusion

Climate change

Racial equity

<https://hbr.org/2021/12/former-best-buy-ceo-hubert-joly-empowering-workers-to-create-magic>

<https://youtu.be/KtiUMAYOcG8>

Course Wrap-up



Course Deliverables



Timed Quiz

120 minutes

37 M/C * 5 points = 185 points

3 Affirmation T/F * 5 points = 15 points

Team Evaluations

On Canvas

Coursera Certificates



We Have Learned From...

Ritz Carlton

Paediatric Orthopaedic

Three Jays

Bergerac

Paul Chesler

Academic Med. Hosp.

Toyota Motor Mfrg.

Gati

GM Powertrain

Thanks to...

You All

Instructional Team



Best Wishes!

