Deadline-Influenced Quality Issues (DIQIs)
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How overemphasis of schedule deadlines can lead to quality issues resulting in legal issues because of

Lost Revenue, Business Failure, Personal Injuries
Manager: “Start packing. Your position is moving to Munich”

Me: “Wow! I can’t wait to tell my wife we’re moving to Germany.”

Manager: “Not you. Your job is moving to Germany. Just pack your things and get out of here!”

TRUTH: My manager and HR rep were in tears. They treated me very well throughout the process.

We are still friends, in fact.
“Project management is like juggling three balls: time, cost and quality. Program management is like a troupe of circus performers standing in a circle, each juggling three balls and swapping balls from time to time.” G. Reiss
Here’s an Oversimplification

Exploring the Triple Constraints

You can have something

- FAST & CHEAP but it won’t be good quality
- CHEAP & GOOD QUALITY, but it won’t be quick or on time
- ON TIME and GOOD QUALITY but it cannot be CHEAP

https://rapidbi.com/time-quality-cost-you-can-have-any-two/
The 6 Most Damaging Results of a Poor Project Plan...

1. Increased expenses
2. Delays
3. Quality issues
4. Client Relations breakdown
5. Lacking motivation in your team
6. Loss of trust by clients and employees

https://www.teamly.com/blog/impact-of-poor-project-planning/
3. **Quality issues**

The reason for quality issues is twofold: you might need to rush a task or do multiple things at once, and your staff may not have enough time to complete all of their tasks properly.

When rushing a task, it's easy for mistakes to happen. You could end up overlooking important details or rushing through something. And correction can take more time than if it had been done properly the first time around.

If your team members are working on multiple tasks at once, they might not have enough time to conduct proper quality assurance testing or carry out extensive research for each task.
Why Do Projects Tend To Have Unrealistic Deadlines?

Client may have set an **arbitrary deadline** because they simply don't understand

Client may only be interested in getting it done as **quickly and cheaply as possible**

Specifications may be **unclear** or incomplete

Trying to **launch a product before a competitor** launches theirs

Client wants to **launch for specific holiday** or for a particular event

https://www.brainspire.com/blog/tackling-unrealistic-deadlines-for-project-completion
My First Project with New Employer, December 1990

“You’ve had time to review the project details. How long to get it done?”

“Mid May”. (I showed all the tasks and estimated time for each.)

“That’s unacceptable. We need it by beginning of March”

Colleague: “I can get it done by beginning of March!”

He got it done by June. Company eventually went under. Colleague is now CTO of a different hi-tech company. What's the lesson here?
Empty IC Package Has Extremely Low Power Consumption

EXEC 1 gets a bonus if new product reaches customer by deadline

EXEC 2 gets a bonus depending on quarterly revenue

New product development behind schedule. EXEC 1 throws a tantrum and demands that it be shipped even if it didn’t work.

Customer incoming inspection. Input current was first test. “Wow!”

EXEC 1 got his bonus then quickly moved on. Customer eventually received working products. What’s the lesson here?
Drill Rig Operator Injured when Rod Handler Malfunctions

This case was used for the IEEE Region 2 Ethics Student Competition

Construction drill rig included a rod handler for 12’ drill bits

Operator reported that automatic rod handler would drop rods

After 10 days, still not fixed. “Shut up and get back to work!”

“We’ve got a deadline to meet.”
Drill Rig Operator Injured when Rod Handler Malfunctions

Failure was only intermittent.

Workaround: Manually reinsert drill bit into grabber of handler

One night on the late shift. Grabber came back to life and severed two fingers from the operator's hand

Project deadline had been imposed by government executive

Root Cause:
Client wants to launch for specific holiday or for a particular event
Failed Product Meets Deadline, Business Goes Under and Worse

Semiconductor Testing Component: “Probe Card”

Company founder: Innovative genius AND business-savvy

Ruled the market at first. Then competition caught up.

For a number of years, company and competition leap-frogged

Founder retired and nepotized his son as CEO

R. Peruzzi, “Forensic Engineering Analysis of Test Equipment Manufacturing Capability in a Business Purchase Dispute”, https://doi.org/10.51501/jotnafe.v35i1.51
Failed Product Meets Deadline, Business Goes Under and Worse

New CEO went the route of layoffs, and aggressive scheduling

Key employees quit even if not laid off

Production procedures not well documented.

New flagship product met deadline but failed, never mind leap!

Customers returned product for refund

R. Peruzzi, “Forensic Engineering Analysis of Test Equipment Manufacturing Capability in a Business Purchase Dispute”, https://doi.org/10.51501/jotnafe.v35i1.51
Failed Product Meets Deadline, Business Goes Under and Worse

Available choices for CEO

- Acceptance. Redesign to leapfrog next cycle
- Sell the business

Sold the business to an off-shore company

Hid facts during due diligence phase

R. Peruzzi, “Forensic Engineering Analysis of Test Equipment Manufacturing Capability in a Business Purchase Dispute”, https://doi.org/10.51501/jotnafe.v35i1.51
Failed Product Meets Deadline, Business Goes Under and Worse

Purchase was to take place in 3 multi-million phases

During second phase, buyer realized they’d been duped

Backed out of agreement. Seller sued. I got retained

Settlement reached after deposition

Root cause: Trying to launch a product before a competitor launches theirs

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DIQIs

For Want of a Nail a Shoe was Lost, …, Kingdom was Lost

Upgrading equipment in industrial setting

New equipment includes important safety lock-out

Intent is to prevent activity until it’s safe to proceed

Position sensor switch on equipment was installed backwards

As installed, the sensor switch could never give the okay to unlock
DIQIs

For Want of a Nail a Shoe was Lost, ..., Kingdom was Lost

Production bay in question was shut down

No product, no money

“Hurry up and get this thing fixed! Get it done!”

Somebody monkeyed around with switch. (Penny in fuse holder)

Production could now proceed, but without lockout feature
For Want of a Nail a Shoe was Lost, ..., Kingdom was Lost

Result of monkeying around, switch always says, “Okay”

Plan: “We’ll fix it one of these days”

That day did not come in time

Fact that the switch was defective was known to investigators

My task – explore the design and determine the consequences of that defect
DiQIs

For Want of a Nail a Shoe was Lost, ..., Kingdom was Lost

Traced control system schematics including the switch

Determined that with switch stuck that way, no lockout

There were other safety features that did work

Operator customarily used diligence but lapsed. (Perfect storm)

DIQIs

End of my examples

Who has a DIQI example to share?

Any Questions?

Thank you for your attention

STAY SAFE!