

IT-Project Risk Factors

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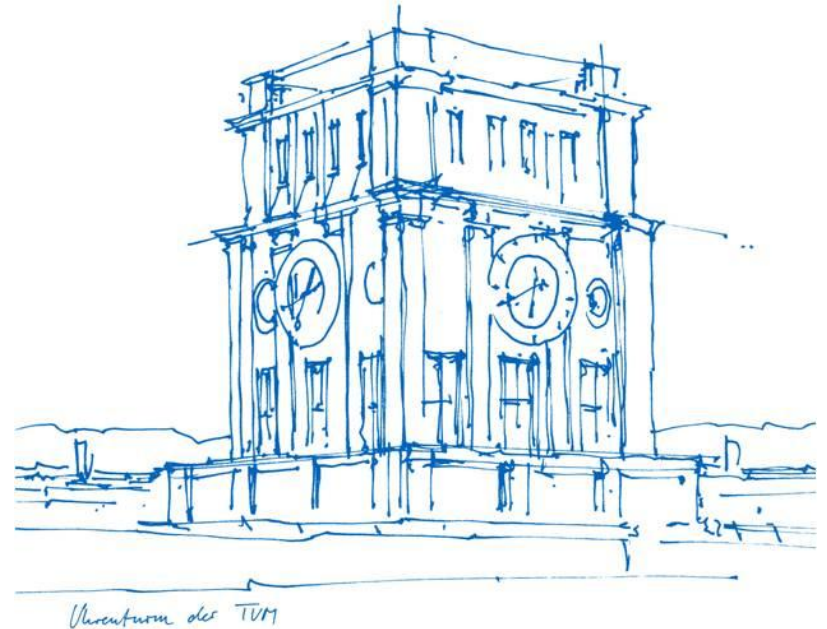
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München, 29. Januar 2021



Agenda

1. Infamous IT project failures
 - 1.1. Nelson's common mistakes
 - 1.2. Three IT project failures
 - 1.3. Similarities, differences and implications
2. Applying OBRiM for classic mistake prevention
 - 2.1. OBRiM framework
 - 2.2. OBRiM on common mistakes

Nelson (2007) common mistakes

1. People

- Motivation, capabilities, working relationships & adding people to a late project

2. Process

- Wasted time, over-optimistic schedules, insufficient risk management, outsourcing & offshoring

3. Product

- Requirement “gold-plating” & change, feature “gold-plating”, engineering limits

4. Technology

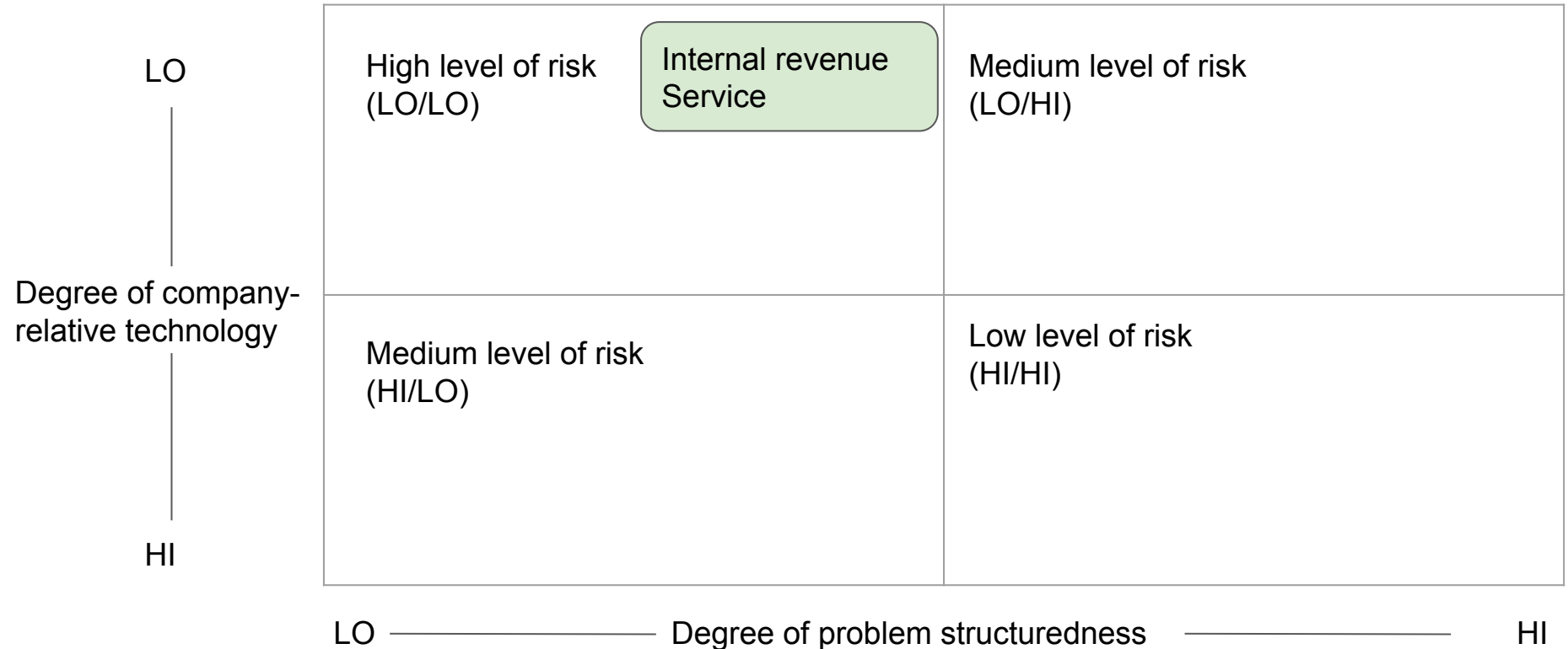
- Silver-bullet syndrome, overestimated saving from new tools, switching tools mid-project

Nelson, R. R. (2007)

Case: Internal Revenue Service

<u>People</u> <ul style="list-style-type: none">- Depended on contractor to know dependencies of project- 3 CIOs have come and gone in 7 Years- Small IRS team managing- IRS managers did not comply with CSC- Accountability of requirement delivery	<u>Process</u> <ul style="list-style-type: none">- Bureaucracy ridden process to follow was not held up.- No consistent direction given to CSC- No clear deliverables
<u>Product</u> <ul style="list-style-type: none">- 2 Trillion dollar dependencies on working product per year	<u>Technology</u> <ul style="list-style-type: none">- Software from 1962- Systems from 1962- Archaic Programming language- Master file to store all data in one place- Master file patched for new legislation

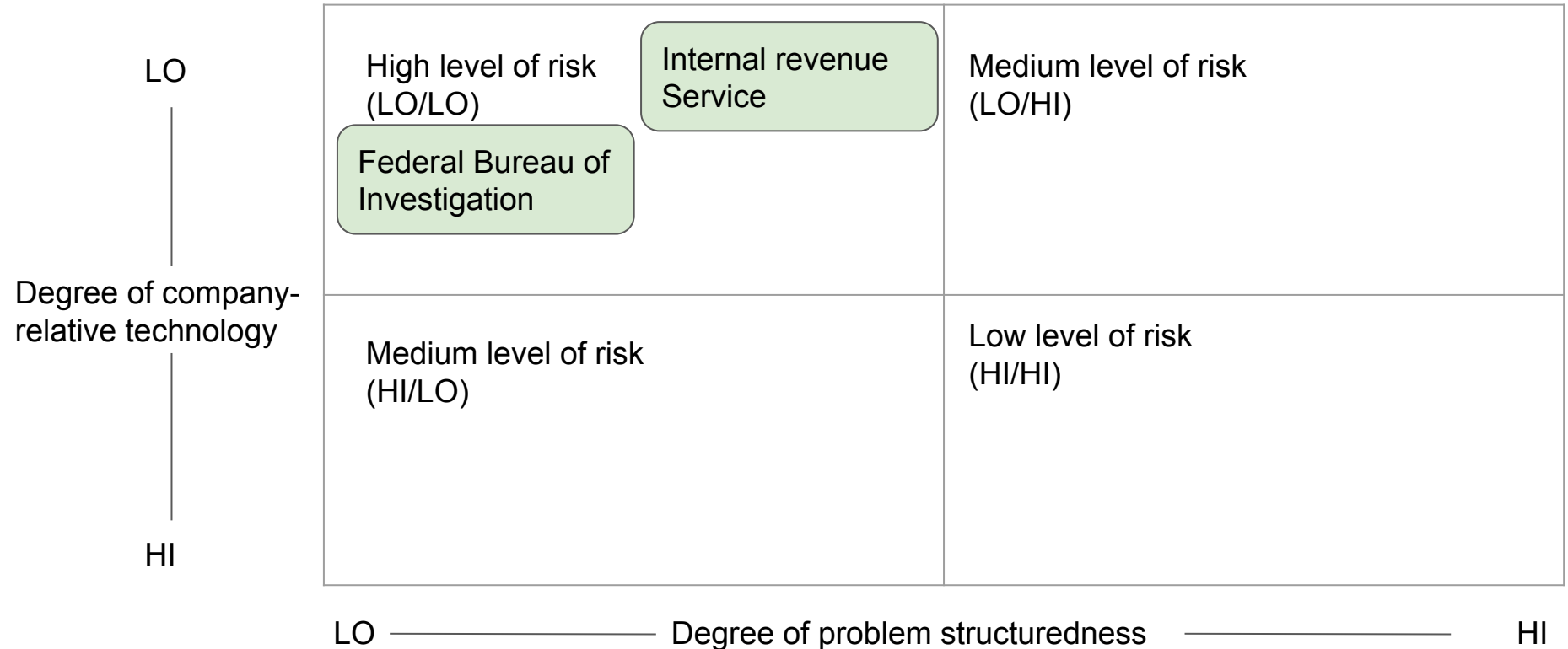
Applegate's IT-Project Risk Framework



Case: Federal Bureau of Investigation

<u>People</u> <ul style="list-style-type: none">- Under-Qualified personnel- Inadequate planning- FBI management turnover <p>→ Strained relationship between the FBI and contractor</p>	<u>Process</u> <ul style="list-style-type: none">- No specified requirements- Requirements shifted after 9/11 from criminal cases to intelligent system
<u>Product</u> <ul style="list-style-type: none">- 400 problems and errors- Feature creep: Requirements change	<u>Technology</u> <ul style="list-style-type: none">- Software from 2002- Upgrade on an existing system to share and search files electronically (Virtual case file)-17 Mio.\$ for testing

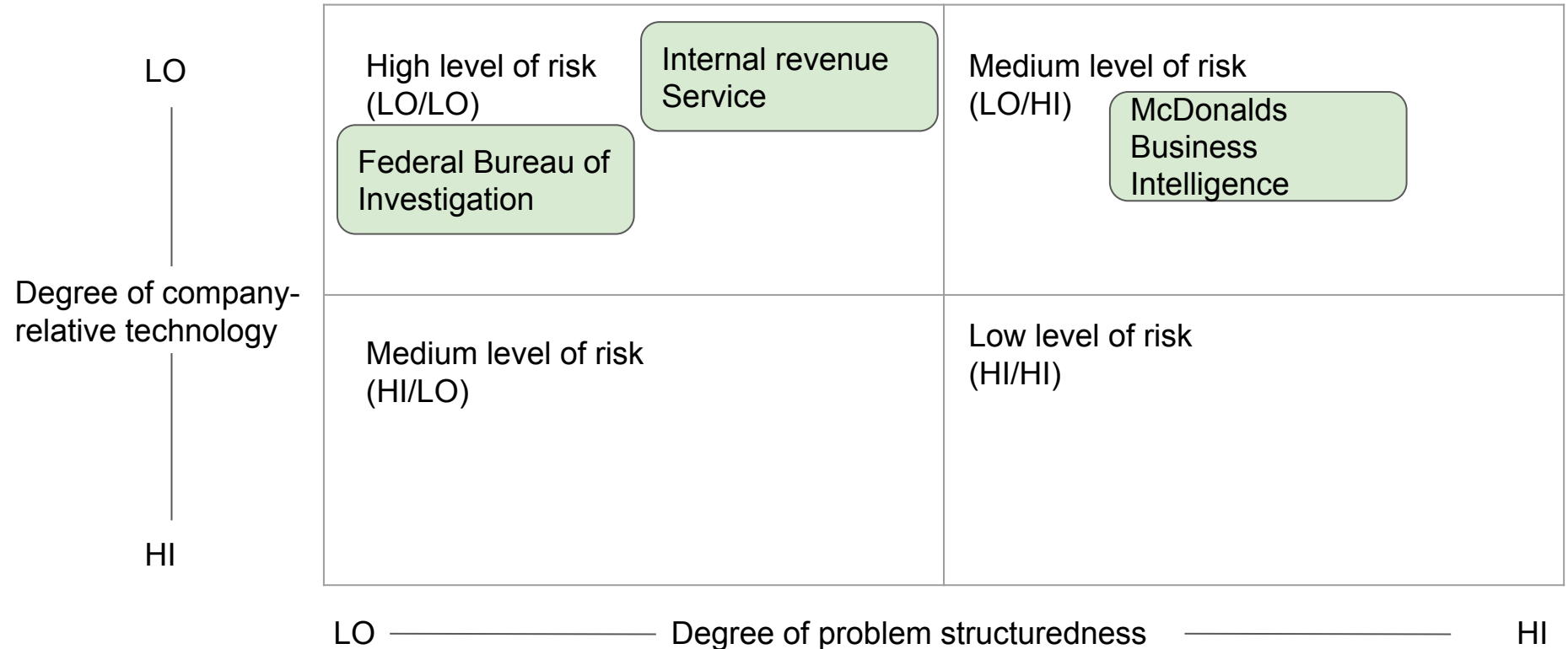
Applegate's IT-Project Risk Framework



Case: McDonald

<u>People</u> <ul style="list-style-type: none">- Lack of IT experience- Low understanding of technology- Low executive-level appreciation- High fluctuation of staff- Low-paid	<u>Process</u> <ul style="list-style-type: none">- Franchiser failure- Underestimation of complexity
<u>Product</u> <ul style="list-style-type: none">- Research-oriented development (no focus, too many areas at the same time)	<u>Technology</u> <ul style="list-style-type: none">- Decade-old and heterogeneous financial reporting system landscape- Overestimated savings

Applegate's IT-Project Risk Framework



Similarities (FBI, IRS, McDonald's)

<u>People</u> <ul style="list-style-type: none">- Underqualified personnel or contractors- High management turnover <p>→ Strained relationship between supplier and contractors</p>	<u>Process</u> <ul style="list-style-type: none">- No specified requirements- Requirements patched in at last minute
<u>Product</u> <ul style="list-style-type: none">- Feature creep: Requirements change	<u>Technology</u> <ul style="list-style-type: none">- Archaic System- Upgrade and migration of an existing productive system

Differences (FBI, IRS, McDonald's)

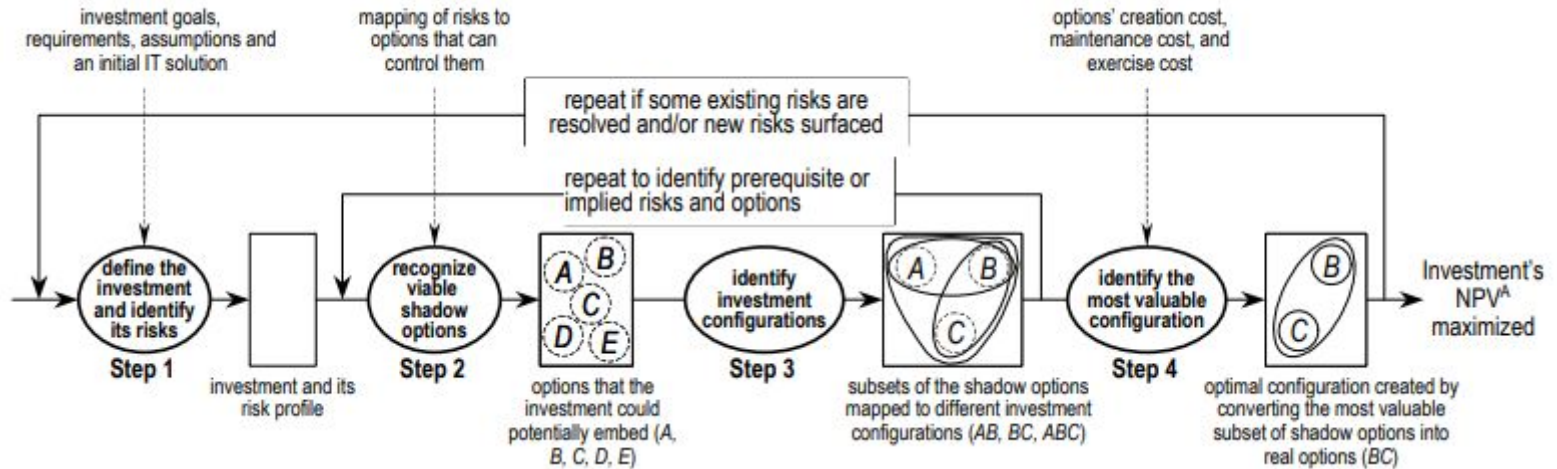
<u>People</u> <ul style="list-style-type: none">- Low Paid	<u>Process</u> <ul style="list-style-type: none">- HARD requirement shift after 9/11 from criminal cases to intelligence operation(FBI)- Underestimation of complexity (McDonald's)
<u>Product</u> <ul style="list-style-type: none">- 400 problems and errors (FBI)- Research-oriented development (McDonald's)	<u>Technology</u> <ul style="list-style-type: none">- Overestimated savings (McDonald's)

Implications IT-Project Failures

Implications drawn from common mistakes:

1. Sufficient project planning beforehand
2. Well defined & codified requirements
3. Avoid adding people to a late projects
4. Define Service Level Agreements
 - a. Clear Accountability for supplier and contractor
5. Do not attempt to exceed engineering limits in more than two areas at a time

OBRiM framework



Benaroch, M. (2002), Benaroch, M., Jeffery, M., Kauffman, R. J., & Shah, S. (2007)

OBRiM for prevention of mistakes

Prevention: hard factors, that are only related to this project	Limitations: soft factors, that are depending on external dependencies
<div data-bbox="79 432 511 609"><i>People:</i> adding people to a late project</div> <div data-bbox="562 432 935 609"><i>Process:</i> all common mistakes</div> <div data-bbox="79 642 523 816"><i>Technology:</i> all common mistakes</div> <div data-bbox="562 642 935 816"><i>Product:</i> engineering limits</div> <div data-bbox="222 823 852 998"><i>Product:</i> Requirement “gold-plating” & change</div>	<div data-bbox="1035 432 1396 609"><i>People:</i> Motivation</div> <div data-bbox="1441 432 1802 609"><i>People:</i> working relationships</div> <div data-bbox="1035 642 1396 816"><i>People:</i> Capabilities</div> <div data-bbox="1429 642 1818 816"><i>Product:</i> feature “gold-plating”</div> <div data-bbox="1035 847 1818 991">Further actions to overcome limitations: further assessments, team building events, etc.</div>

Questions & Discussion

1. Are there any further limitations to the OBRiM framework in regards to preventing IT-project Risks?
2. In the case of McDonalds: Is the data analytics approach for fryer & soda machines to early for the technology or mismanagement?
3. How should a company deal with crisis situations and fundamental shifts in focus due to external events, such as with the FBI case due to 9/11?

Literature

- Benaroch, M. (2002). Managing information technology investment risk: A real options perspective. *Journal of management information systems*, 19(2), 43-84.
- Benaroch, M., Jeffery, M., Kauffman, R. J., & Shah, S. (2007). Option-based risk management: A field study of sequential information technology investment decisions. *Journal of Management Information Systems*, 24(2), 103-140.
- Nelson, R. R. (2007). IT project management: Infamous failures, classic mistakes, and best practices. *MIS Quarterly executive*, 6(2).
- <https://oig.justice.gov/reports/FBI/a0507/exec.htm>