

# Fraud and Misappropriation of Assets: Control and Mitigation

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# The Fraud Diamond

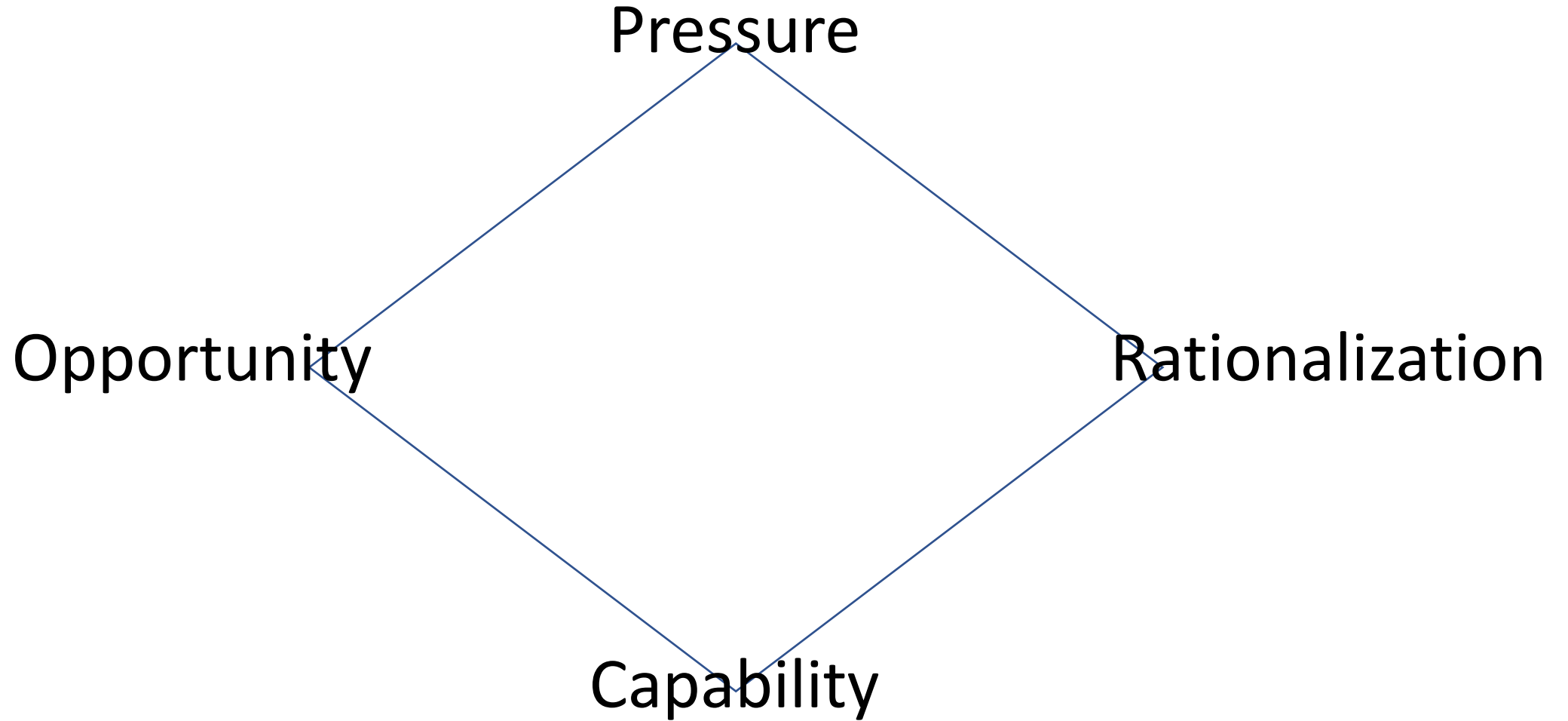
Pressure

Opportunity

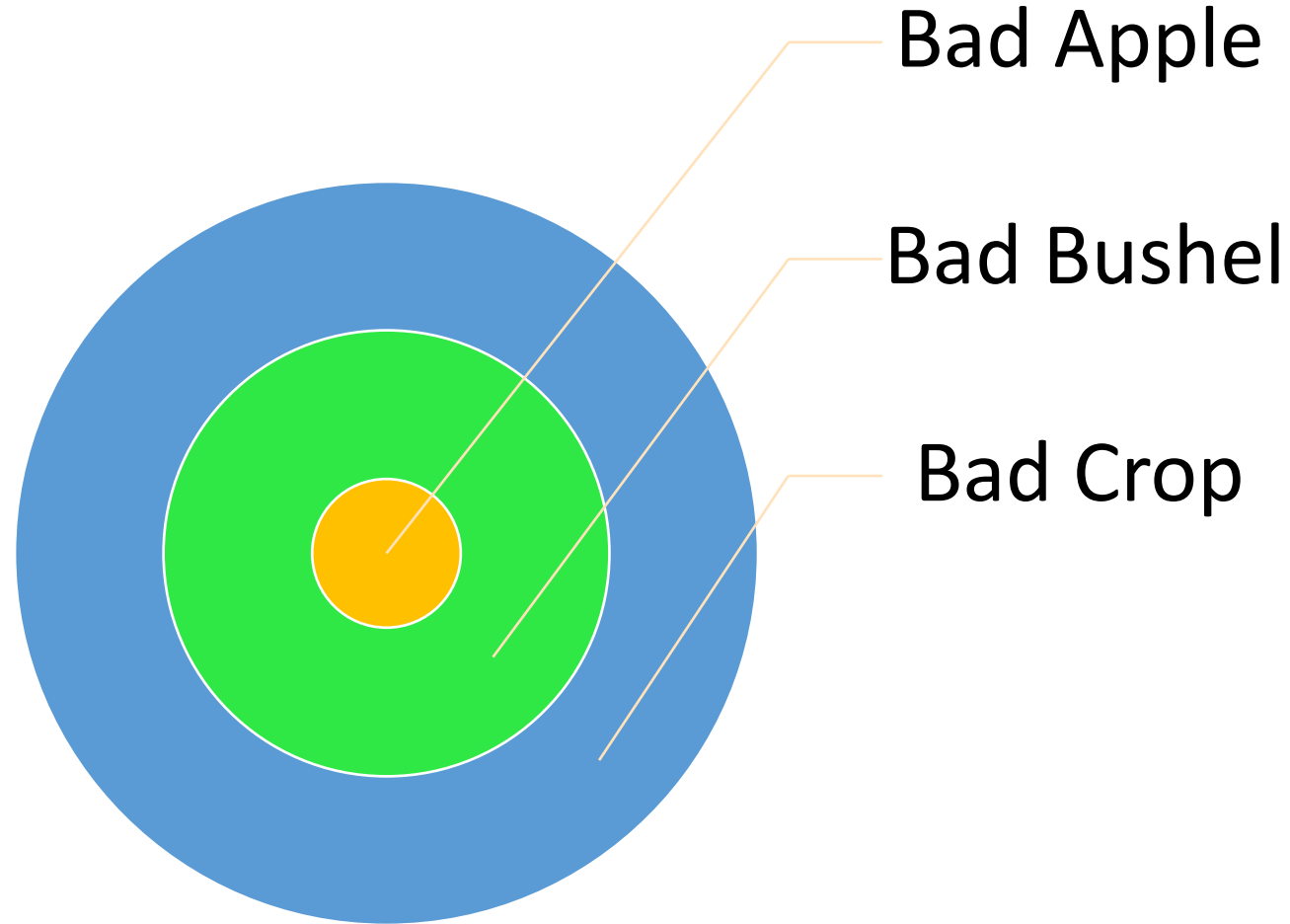
Rationalization

Capability

Wolfe and Hermanson (2004)



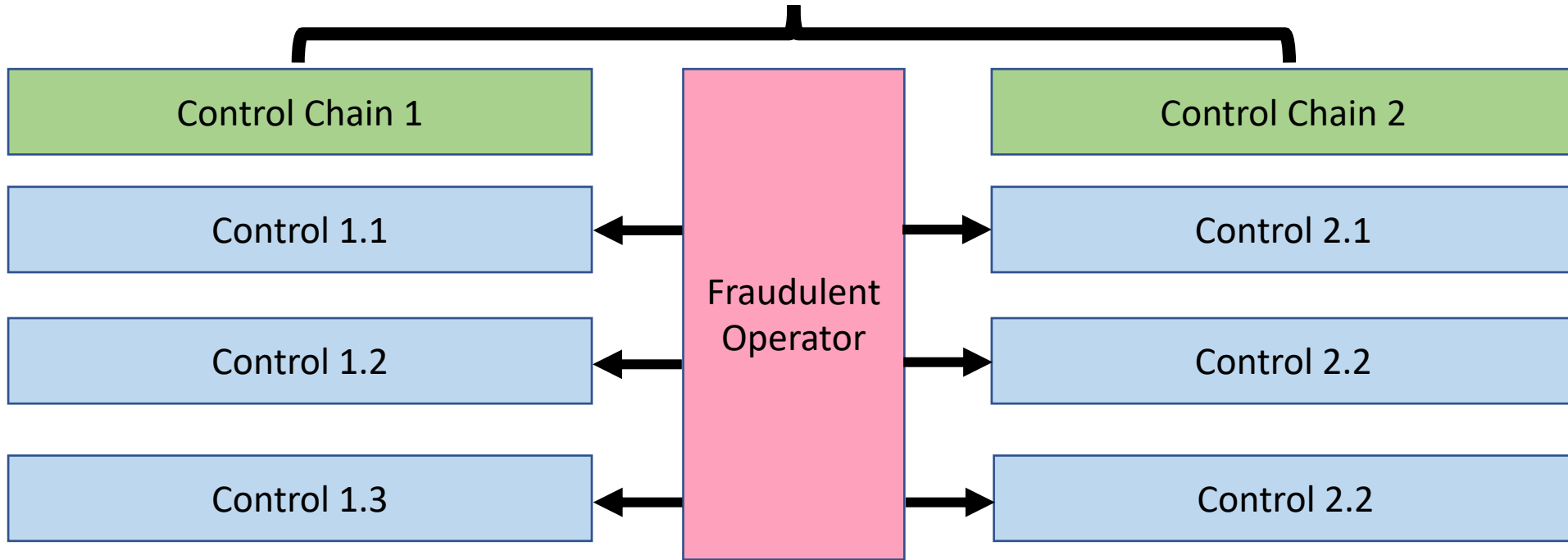
# Ramamoorti, Morrison and Koletar's A-B-C Model



Ramamoorti, Morrison and Koletar 2009)

# Conspiracy Theory

## Compensating Control Chains



Dai and Handley-Schachler 2015

# Asset Misappropriation

- Intent to cause financial gain or loss, i.e. gain or loss of assets
- Asset Creation – Asset is illegal and should not exist
- Asset Exchange – Asset value is misrepresented
- Asset Misappropriation – Asset is misused or stolen

# Asset Misappropriation

- Association of Association of Certified Fraud Examiners (2022):
- 86% of Occupational Frauds involved Asset Misappropriation with median loss of US\$100,000
- 47% of Occupational Frauds involved Asset Misappropriation on its own, with no associated corruption or financial statement fraud. 12% of cases involved no attempt to conceal the fraud or theft
- Billing Frauds (20% of occupational frauds) typically last 18 months with a median loss of US\$100,000, while cash larceny (8% of occupational frauds) typically lasts 14 months with a median loss of US\$45,000
- Largest numbers of frauds in banking, public sector and manufacturing but the largest losses were in real estate, wholesaling and transport

# Asset Misappropriation – Examples

- Investment Funds, for example, by Brown and Fidentia Asset Management and Living Hands Umbrella Trust against Mineworkers' Provident Fund in South Africa (Marumoagae 2021) with loss of about 1.2billion Rand (c.US\$60 million)
- Monetary Receipts from Customers, sometimes with Lapping - reallocation of customer receipts (Kennedy 2018, Setiawan, Tarjo and Haryadi 2022)
- Theft of inventories (Omar, Nawawi and Salin 2016, Setiawan, Tarjo and Haryadi 2022)
- Intellectual property, copyright, design rights, patents

# Cryptocurrency Frauds

## What You Can't See Can Hurt You

- In 2014, the Mt.Gox Bitcoin exchange suspended withdrawals and announced that 650,000 bitcoins were missing, with a value of US\$484m. Chief Executive Mark Karpelès was convicted of falsifying data but nobody was arrested for the theft itself and only 200,000 missing Bitcoins were recovered.
- In 2018, Japanese cryptocurrency exchange Coincheck reported that hackers had extracted US\$530 worth of assets from customers' accounts.
- Between 2016 and 2022, technology entrepreneur Ilya “Dutch” Lichtenstein and freelance journalist Heather Morgan laundered bitcoins stolen by a hacker from investors in the Bitfinex exchange. The bitcoins were traced to a single wallet but it is not certain whether Lichtenstein and Morgan were involved in the original hack.
- In 2022, FTX exchange in Bahamas run by Sam Bankman-Fried, collapsed after embezzlement of investor funds, for which Bankman-Fried was gaoled. About US\$10 billion in investors' funds disappeared with a general lack of book-keeping at the exchange.



# Comparison Across Years

Median Loss (US \$000)	US and Canada	Sub-Saharan Africa	Asia-Pacific	Western Europe	MENA	Indian Subcontinent	Latin America and Caribbean	Eastern Europe, Asia Minor, Caucasus and Central Asia	Overall
2018	c.114	90	236	200	200	100	193	150	130
2020	120	100	190	139	100	117	200	133	125
2022	120	100	121	173	186	92	175	190	117

# The Fraud Diamond, Recessions, Depressions, Bear Markets and High-Inflation

	<b>Pressure</b>	<b>Opportunity</b>	<b>Rationalization</b>	<b>Capability</b>
Recession	Increased	Decreased	Increased	Unchanged
Depression	Increased	Decreased	Increased	Decreased
Bear Market	Increased	Decreased	Unchanged	Unchanged
High Inflation	Increased	Increased	Increased	Unchanged

# Prevention

- Detection usually through tip-offs or internal audit findings, not management review or being flagged by controls.
- Why the constant emphasis on systems, not on character?
- Fairness to those in precarious economic circumstance, lack of information on those circumstances? or because there is only really one corner, not four: opportunity is enough (Kennedy 2018, Setiawan, Tarjo and Haryadi 2022)
- Reluctance to remove individuals with capacity – such as Jerome Kerviel – or the lack of personal capacity for competent management becoming a part of the pressure – as with Nick Leeson?

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