



مركز الاستشارات والبحوث والتطوير
بأكاديمية السادات للعلوم الإدارية

مجلة البحوث الإدارية

Journal of Management Research

علمية - متخصصة - محكمة - دورية ربع سنوية

للسنة
الثالثة والأربعين

Vol. 43, No.3; Jul. 2025

عدد يوليو 2025



www.sams.edu.eg/crdc

رئيس مجلس الإدارة
أ.د. محمد صالح هاشم
رئيس أكاديمية السادات للعلوم الإدارية

رئيس التحرير
د. حسن رشاد صابر
مدير مركز الاستشارات والبحوث والتطوير

ISSN : 1110-225X

Journal of Administrative Research

Issued by:

**Consulting, Research, and Development Center (CRDC) –
Sadat Academy for Administrative Sciences**

Chairman of the Journal's Board:

Prof. Dr. Mohamed Saleh Hashem

Editor-in-Chief:

Dr. Hassan Rashad Saber

Executive Editor:

Mr. Nader Mekky

Editorial Secretary:

Mr. Ahmed Gaber

"Enhancing Policy Reliability: Risk-Informed Policymaking for Early Detection and Prevention of Failures (Application to Egypt's Economic Reform Policies)"

Mustafa Mahmoud Hamed

Department of Public Administration, Faculty of Management sciences, Sadat Academy for Management Sciences, Egypt

Hassan Rashad Saber Elawa

Department of Public Administration, Faculty of Management sciences, Sadat Academy for Management Sciences, Egypt

Corresponding author:

Mustafa Mahmoud Hamed, Department of Public Administration, Faculty of Management Sciences, Sadat Academy for Management Sciences, Egypt.

E-mail: mostafa77hamed@gmail.com

Hassan Rashad Saber Elawa, Department of Public Administration, Faculty of Management Sciences, Sadat Academy for Management Sciences, Egypt.

E-mail: hasanrashad@hotmail.com

Abstract

Policy failures remain a persistent challenge for governments, often resulting in significant economic, political, and social costs. Traditional approaches to policy analysis have largely focused on diagnosing failures after they occur, offering limited guidance for proactive prevention. This study introduces a risk-informed policymaking framework aimed at enhancing policy reliability by integrating early detection and prevention mechanisms into the policy cycle. Drawing on Failure Mode and Effects Analysis (FMEA)—a proactive risk assessment tool widely applied in engineering and organizational management—the framework provides a structured method for identifying potential failure modes, assessing their severity, likelihood, and detectability, and prioritizing preventive actions. The framework is applied to Egypt's economic reform policies, where critical vulnerabilities were identified, particularly in monitoring and evaluation (RPN = 432) and agenda-setting (RPN = 378). Findings underscore the importance of real-time early warning systems, inclusive social impact assessments, and transparent communication strategies to mitigate risks and strengthen policy resilience. By operationalizing risk governance principles, this study contributes to the shift from reactive crisis management to anticipatory and preventive policymaking, offering both theoretical and practical insights for governments seeking to avoid costly policy failures.

Keywords: Policy reliability, Risk-informed policymaking, Policy failure prevention, Early warning systems, FMEA, Economic reforms, Egypt.

.

Introduction

Governments across the globe continue to experience recurrent policy failures despite advances in policy analysis, technical expertise, and evidence-based decision-making (Howlett et al., 2015, p. 215). No government is immune to such failures, as illustrated by notable cases such as oil subsidy reforms in Egypt, agricultural policies in Nigeria, the U.S. invasion of Iraq, the Poll Tax and Child Support Agency reforms in the United Kingdom, and Australia's home insulation program (McConnell, 2014, p. 2). Policy failures are not merely administrative mishaps; they carry profound economic, political, and societal consequences. They undermine governments' ability to achieve policy objectives, drain public resources through costly corrective reforms, consume valuable agenda time, and may erode public trust, trigger electoral losses, and even destabilize regimes (McConnell, 2016, p. 667).

Traditional policy research has focused primarily on conceptualizing and classifying policy failures, offering valuable typologies and explanatory models (Bovens & 't Hart, 2016), but it provides limited guidance for preventing such failures. Reactive and post-hoc approaches dominate the field, leaving policymakers without practical tools for anticipating risks before policies are implemented. This gap calls for a paradigm shift toward risk-informed policymaking—a proactive approach that integrates systematic risk assessment, early warning systems, and policy resilience mechanisms into the policy cycle (Head, 2018; Howlett & Ramesh, 2016). By moving from a reactive to an anticipatory mode of governance, governments can significantly enhance policy reliability and reduce the likelihood of costly failures.

This article contributes to this emerging paradigm by proposing a risk-informed framework for early detection and prevention of policy failures. The framework employs the Failure Mode and Effects Analysis (FMEA) method—a structured (Hamed, 2018), proactive risk assessment tool widely used in engineering and organizational risk management—to systematically identify potential failure modes, evaluate their severity, likelihood, and detectability, and prioritize preventive measures. Unlike traditional post-crisis evaluations, this framework provides policymakers with a practical tool for early detection of warning signs and timely interventions to reduce risks to acceptable levels.

To demonstrate its applicability, the framework is applied to Egypt's economic reform policies, a case characterized by complex trade-offs between fiscal stabilization and social equity. The analysis identifies high-risk areas—particularly in monitoring and evaluation and agenda setting—highlighting the need for real-time early warning systems, inclusive social impact assessments, and transparent communication strategies.

Accordingly, this study pursues two objectives:

1. To synthesize the literature on policy failure and risk-informed governance, emphasizing the need for preventive approaches.
2. To develop and apply a practical FMEA-based framework for enhancing policy reliability through early detection and prevention of failures.

By operationalizing risk governance principles and embedding them in the policy cycle, this research seeks to advance the transition from reactive crisis management to anticipatory and preventive policymaking, offering both theoretical and practical insights for policymakers and governance institutions.

2. Theoretical Framework

Understanding and preventing policy failure requires a multidisciplinary theoretical lens that integrates insights from policy failure theory, risk governance, early warning systems (EWS), and policy resilience. This section outlines the main theoretical underpinnings that inform the proposed risk-informed framework.

2.1. Policy failure Theory

Since the influential work of Bovens and 't Hart (1996) on policy fiascos, numerous contributions have emerged in the field of public policy. Much of this literature has concentrated on defining the concept of policy failure and distinguishing between its various forms, yet often without a parallel emphasis on developing robust analytical methodologies (Gomaa, 2004, p. 37). The notion of public policy failure has gained wide currency across policy studies, public administration, media discourse, and among advocacy groups (Zittoun, 2015, p. 243). It is also a recurring theme in expert deliberations, bureaucratic dialogues, and academic research, which has contributed to the proliferation of related terms and conceptual variants in the literature (Zittoun, 2015, pp. 243–260). Table 1 below presents a synthesis of the most commonly used terms associated with policy failure.

Table 1. Different labels of the concept "policy failure":

Policy Fiascos _ Mark Bovens and Paul t' Hart, 1996
Policy Disasters - Dunleavy, 1995
Governance Failure - Vining and Weimer, 1990; Wolf, 1979, 1987
Policy Catastrophes- Moran, 2001
Policy Anomalies- Hall, 1993
Policy Accidents - Cobb and Primo, 2003; Kingdon, 1984

Source: Author

Recent studies on policy failure frequently employ the term policy failure itself, signaling a growing consensus around the importance of definitional clarity in this field. It is essential to standardize both the meaning and conceptual boundaries of terms used in this context. When discussing policy failure, interchangeable use of terms such as policy anomalies or policy accidents should be avoided, as each concept conveys distinct implications regarding agency, severity, and politicization (Bovens & 't Hart, 2016, p. 644).

Bovens and 't Hart (1995, 1996) introduced the term policy fiasco to describe "a negative event that is perceived by a socially and politically significant group in the community to be at least partially caused by avoidable and blameworthy failures of public policymakers" (Bovens & 't Hart, 1996, p. 15). Similarly, Gomaa (2004, pp. 37–38) defines policy failure as "a negative event that causes harm to society and is highly politicized."

In terms of methodological approaches to studying policy failure, two dominant trends emerge. The first is the case study approach, which often relies on subjective judgments and narrative interpretations rooted in political context and actors' accounts of previous policies. This reliance on politicized data has hindered the ability to generalize findings or establish robust causal explanations for policy failures (Howlett, 2012, pp. 534–555). Notable applications of this method include Walsh's (2006, pp. 490–518) analysis of British security policy post–Cold War, Kingston's (2011) study on nuclear regulation in Japan, and Kearns and Lawson's (2009, pp. 449–470) investigation of housing policy reform in Scotland.

The second trend attempts to address these limitations by adopting more structured and outcome-oriented approaches. Scholars such as Howlett (2012), Bovens and 't Hart (2016), and McConnell (2012, 2015, 2016) have developed evaluation frameworks focusing on the extent to which policies meet their intended objectives, their impacts on target populations, and their political and administrative implications. These studies apply more objective criteria to diagnose policy failure—such as goal attainment, stakeholder satisfaction, or public value delivery (Kay & Boxall, 2015, pp. 33–41). However, while these frameworks offer valuable tools for assessing policy success or failure, they often stop short of uncovering the root causes and mechanisms of failure. They primarily help to structure evaluative claims based on outcome indicators (McConnell, 2010, p. 348) (see Table 2).

Table 2. Criteria for successful prosecution or failure of a particular policy

Basis of claim	Claim of success	Claim of failure
Original objectives	Achieved	Not achieved
Target group	Positive impact	Negative impact
Results Problem	Improvement	Problem worsening
Significance	Important to act	Failing to act
Source of support/opposition	Key groups support	Key groups oppose
Jurisdictional comparisons	Best practice or superior performance	Someone is doing This better elsewhere
Balance sheet	High benefits	High costs
Level of innovation	New changes	Old response
Normative stance	Right thing to do	Wrong thing to do

Source: Hewlett et al. (2015:204-220).

While case studies may provide valuable insights into past policy errors and offer lessons for future policymaking, their focus on the uniqueness of individual cases often limits the ability to derive generalizable patterns of policy failure (Gomaa, 2004, p. 37). Although they contribute to retrospective understanding, they fall short in providing systematic tools for the proactive prevention of failures. Current methodologies, while valuable in evaluating outcomes or categorizing failure types, remain insufficient—particularly regarding how to anticipate failure and mitigate risks to an acceptable level.

In response to this gap, this study proposes the application of the Failure Mode and Effects Analysis (FMEA) matrix within the field of public policy. Originally developed in engineering and risk management, FMEA is a structured and predictive technique that identifies potential failure points, estimates their severity, likelihood, and detectability, and prioritizes them for preventive action. We argue that its adoption in policy analysis offers a robust, forward-looking framework capable of reducing policy risk and enhancing reliability by anticipating errors before they materialize.

2.2 Policy reliability

Policy reliability refers to the degree to which a policy consistently delivers its intended outcomes under varying conditions while maintaining public trust and legitimacy. It is an emerging concept in public policy studies, closely linked to policy resilience and risk governance, yet distinct in its emphasis on predictability, consistency, and dependability of policy performance (Howlett, 2014; McConnell, 2016).

Whereas policy success has often been measured retrospectively based on outcomes, policy reliability is inherently prospective and preventive, focusing on designing policies that are less prone to failure. Reliable policies are those that:

- Are based on robust evidence and risk assessment.

- Include mechanisms for early detection of problems and feedback loops.
- Maintain stability and credibility even when external shocks or uncertainties arise.

2.3. Risk Governance and Risk-Informed Policymaking

Risk governance provides a framework for managing complex and uncertain policy environments. It emphasizes the identification, assessment, and management of risks across all stages of the policy cycle (Renn, 2008). Aven and Renn (2010) stress that risk governance should not only react to crises but also enable anticipation of potential failure modes to minimize harmful consequences.

The concept of Risk-informed policymaking refers to the systematic integration of risk assessment, management, and communication into all stages of the policy cycle—agenda setting, formulation, implementation, and evaluation (Aven & Renn, 2010). It departs from traditional, deterministic approaches to policy design by explicitly recognizing uncertainty, complexity, and the potential for policy failure.

Whereas traditional policy-making often assumes linear causality and predictable outcomes, risk-informed policymaking adopts a probabilistic and anticipatory mindset, asking not only “*What should be done?*” but also “*What could go wrong, with what likelihood, and at what cost?*” (Howlett & Ramesh, 2016). This approach thus embodies a shift from reactive problem-solving to preventive and resilience-oriented governance.

Core Principles of Risk-Informed Policymaking

Drawing from risk governance literature (Renn, 2008) and complexity theory (Head, 2018), risk-informed policymaking can be conceptualized around five interrelated principles:

- Comprehensive Risk Identification
 - Policymakers systematically identify potential failure modes—whether political, programmatic, or process-related—across the policy cycle.
 - This includes both *endogenous risks* (e.g., weak institutional capacity, corruption) and *exogenous risks* (e.g., global economic shocks, pandemics).
- Quantitative and Qualitative Risk Assessment
 - Risks are evaluated based on their severity, likelihood, and detectability, enabling prioritization of critical threats.
 - Hybrid methods—combining quantitative tools (e.g., FMEA, Bayesian modeling) and qualitative expert judgment—provide more robust assessments.
- Early Warning and Continuous Monitoring
 - Risk-informed policymaking relies on real-time data collection and early warning systems (EWS) to detect emerging threats before they escalate (Dunlop et al., 2020).
- Stakeholder Engagement and Transparency
 - Inclusive risk communication fosters shared understanding of trade-offs, increasing public trust and legitimacy.
 - Engaging civil society, private sector actors, and technical experts helps identify overlooked risks and co-produce solutions.

- Adaptive and Learning-Oriented Policy Design
 - Policies are designed with flexibility and built-in feedback loops to allow for timely adjustments in response to new information.
 - This embodies the concept of policy resilience—the capacity to absorb shocks and maintain functionality (Duit, 2016).

2.3 Early Warning Systems (EWS)

Early Warning Systems are essential for detecting signals of emerging risks before they escalate into policy failures. Dunlop, Ongaro, and Baker (2020) argue that governments must integrate real-time monitoring, data analytics, and feedback mechanisms to detect anomalies and trigger timely interventions. EWS are particularly relevant in volatile contexts—such as economic reforms—where rapid changes can have severe social and political repercussions if not monitored closely.

2.4 Policy Resilience

Policy resilience refers to the capacity of policies and governance systems to absorb shocks, adapt to change, and maintain core functions under stress (Duit, 2016). Resilient policies are designed with redundancy, flexibility, and learning mechanisms, allowing for adjustments in response to early warning signals. By integrating resilience thinking into policy design, governments can better balance stability and adaptability, reducing the probability and severity of failures.

3. Case Study: Enhancing Policy Reliability in Egypt's Economic Reform Policies

Egypt's economic reform program, initiated in 2016 under an agreement with the International Monetary Fund (IMF), represents one of the most ambitious and controversial policy reforms in the country's modern history. Designed to stabilize macroeconomic conditions, attract foreign investment, and reduce fiscal deficits, the program introduced several key measures:

- Currency liberalization (*floating the Egyptian pound*).
- Subsidy reduction, particularly on fuel and electricity.
- Tax reforms aimed at expanding the revenue base.
- Expansion of social protection programs, such as *Takaful* and *Karama*, to cushion the impact on vulnerable populations.

While these measures achieved notable macroeconomic successes—including improved foreign reserves and enhanced investor confidence—they generated significant social and political challenges:

- High inflation rates and sharp increases in the cost of living.
- Growing public dissatisfaction and criticism over the distributional effects of reforms.
- Perceived lack of transparency and inadequate communication from policymakers.

These challenges highlight critical threats to policy reliability. Although technically sound in economic terms, the reforms exhibited vulnerabilities in operational and political reliability, undermining public trust and risking policy continuity. This makes Egypt's reforms a suitable case for applying a risk-informed framework to enhance policy reliability.

3.1 Applying FMEA to Economic Reform Policies

To systematically identify and prioritize potential threats to policy reliability, the Failure Mode and Effects Analysis (FMEA) methodology was employed. FMEA is a structured, proactive technique used to detect possible points of failure in a process, product, or system by assessing risks before they occur. In the context of public policy, this method enables policymakers and analysts to preemptively pinpoint vulnerabilities across different stages of the policy cycle and mitigate risks through strategic interventions (Hamed, 2018).

The analysis was conducted across five critical stages of the policy cycle—agenda setting, policy design, implementation, communication, and monitoring and evaluation (M&E). For each stage, potential failure modes—i.e., ways in which the process could fail—were identified. Each failure mode was then assessed according to three standardized criteria (Carlson, C.S., 2014) :

- Severity (S): the magnitude of the impact if the failure occurs, particularly in terms of consequences for stakeholders, policy credibility, and public trust.
- Occurrence (O): the likelihood that the failure mode will happen, based on historical data, expert judgment, or systemic indicators.
- Detectability (D): the probability that the failure will be detected before it causes harm, reflecting the strength of existing oversight and feedback mechanisms.

These three scores were then used to calculate a Risk Priority Number (RPN) for each failure mode using the formula: $RPN = S \times O \times D$

The RPN provides a quantitative basis for ranking the identified risks, where higher values indicate more critical failure modes requiring urgent corrective or preventive action. This systematic approach supports risk-informed policymaking by shifting the focus from reactive crisis management to proactive governance and resilience-building.

Furthermore, the results from the FMEA analysis can inform policy redesign, guide the allocation of oversight resources, and enhance the reliability of decision-making processes by embedding a culture of continuous risk assessment and mitigation across all policy stages.

Table (3). Applying FMEA to Economic Reform Policies.

Policy Phase	Potential Reliability Threat (Failure Mode)	Underlying Causes	Specific Effects on Policy Reliability	Reliability Dimension Affected	S	O	D	RPN	Recommended Reliability-Enhancing Actions
--------------	---	-------------------	--	--------------------------------	---	---	---	-----	---

Policy Phase	Potential Reliability Threat (Failure Mode)	Underlying Causes	Specific Effects on Policy Reliability	Reliability Dimension Affected	S	O	D	R P N	Recommended Reliability-Enhancing Actions
Agenda Setting	Underestimation of social and political risks	Technocratic, IMF-driven decision-making; limited stakeholder inclusion; weak political risk analysis	Public resistance to subsidy removal; loss of legitimacy; protests or unrest	Political Reliability	9	7	6	378	- Institutionalize participatory agenda setting (civil society, academia, business representatives) - Conduct social & political impact assessments before reforms - Establish multi-stakeholder advisory councils
Policy Design	Inadequate targeting of social protection programs	Outdated databases; insufficient coverage of informal labor; constrained fiscal space	Perceived unfairness; increased vulnerability of poor households; reduced trust in government	Programmatic & Political Reliability	8	8	5	320	- Upgrade digital beneficiary databases using AI & GIS mapping - Expand Takaful & Karama programs to informal workers - Introduce automatic adjustment mechanisms linking inflation to benefits
Implementation	Mismanagement, resource leakages, and low institutional capacity	Bureaucratic inefficiency; weak oversight; fragmented authority	Waste of resources; public perception of corruption; administrative delays undermining credibility	Operational & Political Reliability	8	6	7	336	- Introduce e-governance platforms for transparent fund allocation - Strengthen audit & anti-corruption units - Build capacity through targeted training for frontline implementers
Communication	Ineffective risk communication and lack of transparency	Over-reliance on state-controlled media; limited two-way communication; poor crisis	Spread of rumors; distrust of government narratives; resistance to austerity	Political Reliability	7	8	6	336	- Develop participatory risk communication strategies - Engage independent economists & influencers in messaging -

Policy Phase	Potential Reliability Threat (Failure Mode)	Underlying Causes	Specific Effects on Policy Reliability	Reliability Dimension Affected	S	O	D	R P N	Recommended Reliability-Enhancing Actions
		framing							Establish open online forums and social media Q&A platforms
Monitoring & Evaluation (M&E)	Absence of real-time early warning systems and weak feedback loops	Fragmented data systems; outdated manual reporting; lack of inter-ministerial coordination	Delayed responses to public grievances; inability to adjust policies dynamically; rigidity reduces trust	Operational & Programmatic Reliability	9	6	8	432	- Build real-time socio-economic dashboards integrating Finance, Planning, & Social Solidarity ministries - Use big data analytics to predict public discontent - Link M&E findings to automatic policy adjustment protocols

Source: author

3.2 Deep Analysis and Interpretation

The FMEA results reveal critical reliability vulnerabilities:

- Monitoring & Evaluation (Highest Risk – RPN = 432)
 - Why critical: Delayed detection of inflationary shocks and social grievances reduced the government's capacity to adapt policy measures.
 - Reliability implication: Operational and programmatic reliability were undermined by rigidity and lack of responsiveness, making reforms appear insensitive to citizens' hardships.
- Agenda Setting (RPN = 378 – Political Reliability Threat)
 - Why critical: Limited stakeholder engagement during the early stages reduced political legitimacy. Decisions driven primarily by fiscal stabilization goals ignored social trade-offs, generating public resentment.
- Communication Failures (RPN = 336 – Political Reliability Risk)
 - Poor risk communication and over-reliance on state media increased misinformation and resistance, weakening trust in government narratives.
- Implementation Weaknesses (RPN = 336 – Operational Reliability Risk)

- Perceived corruption and inefficiency reduced public confidence in administrative capacity, undermining the legitimacy of austerity measures.
- Social Protection Targeting (RPN = 320 – Programmatic Reliability Risk)
 - Inadequate targeting of vulnerable groups amplified perceptions of inequality and injustice, eroding both programmatic and political reliability.

3.3 Lessons for Enhancing Policy Reliability

This case highlights three strategic lessons for risk-informed policymaking:

- Institutionalize Early Warning Systems
 - Building real-time socio-economic dashboards and linking them across ministries would allow faster adaptation to inflationary pressures and public discontent.
- Embed Participatory Mechanisms in Agenda Setting
 - Broader stakeholder engagement, including civil society and academic experts, would enhance political reliability and ensure reforms are socially acceptable.
- Adopt Transparent, Adaptive Communication
 - A shift to two-way participatory communication can build trust, manage public expectations, and counter misinformation.

Conclusion

Policy failures remain one of the most pressing challenges for contemporary governance, with far-reaching economic, political, and societal consequences. The analysis presented in this study underscores the urgent need for governments to move beyond reactive, post-crisis responses and adopt proactive, risk-informed approaches to policymaking. By integrating systematic risk assessment, early warning systems (EWS), and adaptive governance mechanisms into the policy cycle, policymakers can significantly enhance policy reliability, ensuring that policies consistently deliver intended outcomes while maintaining legitimacy and public trust.

The application of the Failure Mode and Effects Analysis (FMEA) framework to Egypt's economic reform policies demonstrates the practical value of this approach. The findings reveal that monitoring and evaluation weaknesses (RPN = 432) and agenda-setting deficiencies (RPN = 378) posed the greatest threats to policy reliability, primarily due to delayed early warning signals, limited stakeholder consultation, and ineffective communication strategies. Addressing these vulnerabilities requires:

1. Institutionalizing Early Warning Systems – Establishing real-time socio-economic monitoring dashboards to detect emerging risks and enable rapid policy adjustments.

2. Strengthening Political Reliability – Enhancing participatory agenda-setting and transparent risk communication to build public trust and legitimacy.
3. Improving Programmatic Reliability – Upgrading targeting mechanisms for social protection programs to mitigate adverse social impacts and maintain equity.

From a broader theoretical perspective, this study contributes to the evolving discourse on risk-informed policymaking by linking it explicitly to the goal of policy reliability. It demonstrates that anticipatory governance—grounded in risk governance principles and operationalized through tools such as FMEA—offers a viable pathway for preventing policy failures in complex and uncertain environments.

In practical terms, governments seeking to ensure the long-term sustainability of reforms must embed reliability thinking into all stages of the policy cycle. Doing so not only reduces the likelihood of failure but also strengthens institutional capacity, enhances resilience, and fosters greater public confidence in governance processes. Future research should expand the empirical application of risk-informed frameworks to other policy domains and explore the integration of big data analytics and AI-driven early warning systems to further advance the reliability of public policies.

References:

1. Aven, T., & Renn, O. (2010). Risk management and governance: Concepts, guidelines and applications. Springer. <https://doi.org/10.1007/978-3-642-13926-0>
2. Bovens, M., & 't Hart, P. (1996). Understanding policy fiascos. New Brunswick, NJ: Transaction.
3. Bovens, M., & 't Hart, P. (2016). Revisiting the study of policy failures. *Journal of European Public Policy*, 23(5), 653–666. <https://doi.org/10.1080/13501763.2015.1127273>
4. Carlson, C. S. (2014). Understanding and applying the fundamentals of FMEAs. Tucson, AZ: Effective FMEAs.
5. Deborah, L. S. (2018, March 5). Preventing a failure before any harm is done. iSixSigma. <http://www.isixsigma.com/tools-templates/fmea/fmea-preventing-failure-any-harm-done>
6. Duit, A. (2016). Resilience thinking: Lessons for public administration. *Public Administration*, 94(2), 364–380. <https://doi.org/10.1111/padm.12182>
7. Dunleavy, P. (1995). Policy disasters: Explaining the UK's record. *Public Policy and Administration*, 10(2), 52–70.
8. Dunlop, C. A., Ongaro, E., & Baker, K. (2020). Researching COVID-19: A policy sciences response. *Policy & Society*, 39(3), 317–330. <https://doi.org/10.1080/14494035.2020.1786177>
9. Dye, T. R. (2012). Understanding public policy (12th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
10. Gomaa, S. (2004). Policy analysis in the 21st century. In S. Gomaa (Ed.), *Policy analysis in the Arab world* (pp. 29–64). Cairo: Cairo University, Faculty of Economics and Political Science, Center for Public Administration Studies and Consultations.
11. Hamed, M. M. (2018). A qualitative framework to learn from Failures: reducing risks and developing effective financial policies. *European Journal of Islamic Finance*, (10). <https://doi.org/10.13135/2421-2172/2811>.
12. Hamed, M. M. (2018). How can we prevent Policy Failures? A framework for controlling risks and detecting warning signs. IIAS international conference. Tunisia, 25th-29th June.
13. Head, B. W. (2018). Forty years of wicked problems literature: Forging closer links to policy studies. *Policy and Society*, 38(2), 180–197. <https://doi.org/10.1080/14494035.2018.1488797>
14. Healthcare Improvement Team. (2004). Failure modes and effects analysis (FMEA). Institute for Healthcare Improvement.
15. Howlett, M. (2012). The lessons of failure: Learning and blame avoidance in public policy-making. *International Political Science Review*, 33(5), 539–555.
16. Howlett, M. (2013). Policy analytical capacity as a source of policy failure. Canadian Political Science Association Annual Meeting. Saskatoon: University of Saskatchewan.
17. Howlett, M. (2014). Policy analytical capacity and evidence-based policy-making: Lessons from Canada. *Canadian Public Administration*, 57(2), 153–169. <https://doi.org/10.1111/capa.12056>

18. Howlett, M., & Ramesh, M. (2016). The two orders of governance failure: Design mismatches and policy capacity issues in modern governance. *Policy and Society*, 35(3), 157–169. <https://doi.org/10.1016/j.polsoc.2016.05.002>
19. Howlett, M., Ramesh, M., & Wu, X. (2015). Understanding the persistence of policy failures: The role of politics, governance and uncertainty. *Public Policy and Administration*, 30(3–4), 209–220. <https://doi.org/10.1177/0952076715593139>
20. Kay, A., & Boxall, A. M. (2015). Success and failure in public policy: Twin imposters or avenues for reform? Selected evidence from 40 years of health care reform in Australia. *Australian Journal of Public Administration*, 74(1), 33–41.
21. Kearns, A., & Lawson, L. (2009). (De)construction policy failure: Housing stock transfer in Glasgow. *Evidence & Policy*, 5(4), 449–470.
22. Kingston, J. (2011). Ousting Kan Naoto: The politics of nuclear crisis and renewable energy in Japan. *Asia-Pacific Journal*. <http://japanfocus.org/-Jeff-Kingston/3724/article>.
23. Lago, P., Bizzarri, G., & Lucenteforte, E. (2012). Use of FMEA analysis to reduce risk of errors in prescribing and administering drugs in paediatric wards: A quality improvement report. *BMJ Open*, 2(e001249). <https://doi.org/10.1136/bmjopen-2012-001249>.
24. Lipol, L. S., & Haq, J. (2011). Risk analysis method: FMEA/FMECA in the organization. *International Journal of Basic & Applied Sciences*, 11(5), 49–57.
25. March, D., & McConnell, A. (2008). Towards a framework for examining policy success. Australian Political Studies Association Conference. Brisbane, Australia.
26. May, P. J. (2015). Implementation failures revisited: Policy regime perspectives. *Public Policy and Administration*, 30(3–4), 277–299.
27. McConnell, A. (2010a). Policy success, policy failure and grey areas in-between. *Journal of Public Policy*, 30(3), 345–362. <https://doi.org/10.1017/S0143814X10000152>.
28. McConnell, A. (2010b). Understanding policy success: Rethinking public policy. Basingstoke: Palgrave Macmillan.
29. McConnell, A. (2014). Why do policies fail? A starting point for exploration. Paper presented at Political Studies Association 64th Annual International Conference, Manchester, UK.
30. McConnell, A. (2015). What is policy failure? A primer to help navigate the maze. *Public Policy and Administration*, 30(3–4), 221–242.
31. McConnell, A. (2016). A public policy approach to understanding the nature and causes of foreign policy failure. *Journal of European Public Policy*, 23(5), 667–684. <https://doi.org/10.1080/13501763.2015.1127275>
32. Nancy, R. T. (2004). The quality toolbox (2nd ed.). Milwaukee, WI: ASQ Quality Press. <http://www.asq.org/learn-about-quality/process-analysis-tools/overview/fmea.html>
33. Ozyazgan, V., & Zehra, F. (2013). FMEA analysis and applications in knitting industry. *Tekstil Ve Konfeksiyon*, 23(3), 228–232.
34. Pretesh, P. (2015, May 11). Example of process failure mode and effect analysis. APB Consultant. <http://isoconsultantpune.com/wp-content/uploads/2015/01/Example-of-Process-Failure-Mode-and-Effect-Analysis.pdf>
35. Renn, O. (2008). Risk governance: Coping with uncertainty in a complex world. London: Earthscan.

36. Richard, M., & Dade, B. (2006). Failure modes and effects analysis (FMEA, FMECA). Wayne, PA: Clinical and Laboratory Standards Institute.
37. Walsh, J. I. (2006). Policy failure and policy change: British security policy after the Cold War. *Comparative Political Studies*, 39(4), 490–518.
38. Zittoun, P. H. (2015). Analyzing policy failure as an argumentative strategy in the policymaking process: A pragmatist perspective. *Public Policy and Administration*, 30(3–4), 243–260.