

Strategic Risk Institute LLC

Strategic Risk Governance and Management Course

Module 1 Readings

Required

- *Speed Kills*
- *Roads to Ruin*
- *How Much Can Firms Know*
- *The Mortality of Companies*

| Title | URL |
|---|---|
| <i>Speed Kills, by Nathan Freier</i> | https://ssi.armywarcollege.edu/index.cfm/articles/Speed-Kills/2017/06/09 |
| <i>Roads to Ruin, by Cass Business School</i> | https://www.reputability.co.uk/files/press/Roads_to_Ruin_The_Analysis.pdf |
| <i>How Much Can Firms Know, by Ormerod and Rosewell</i> | http://www.paulormerod.com/wp-content/uploads/2012/06/how-much-can-firms-know.pdf |
| <i>The Mortality of Companies, by Daepf et al</i> | https://royalsocietypublishing.org/doi/full/10.1098/rsif.2015.0120 |

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Module 2 Readings

Required

- *The Prevalence of Chaotic Dynamics in Games with Many Players*
- *Reflexivity, Complexity, and the Nature of Social Science*
- *The Hidden Fragility of Complex Systems*
- *Exploring Limits to Prediction in Complex Social Systems*
- *Power Laws, Pareto Distributions, and Zipf's Law*
- *Complexity Economics*

| Title | URL |
|--|---|
| <i>The Prevalence of Chaotic Dynamics in Games with Many Players, by Sanders et al</i> | https://www.nature.com/articles/s41598-018-22013-5 |
| <i>Reflexivity, Complexity, and the Nature of Social Science, by Eric Beinhocker</i> | https://www.inet.ox.ac.uk/files/publications/Beinhocker%20(JEM%202013).pdf |
| <i>The Hidden Fragility of Complex Systems, by James Crutchfield</i> | https://www.santafe.edu/research/results/working-papers/the-hidden-fragility-of-complex-systems-consequenc |
| <i>Exploring Limits to Prediction in Complex Social Systems, by Martin et al</i> | https://arxiv.org/abs/1602.01013 |
| <i>Power Laws, Pareto Distributions, and Zipf's Law, by M.E.J. Newman</i> | https://arxiv.org/abs/cond-mat/0412004 |
| <i>Complexity Economics, by W. Brian Arthur</i> | http://tuvalu.santafe.edu/~wbarthur/Papers/Comp.Econ.SFI.pdf |

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Module 3 Readings

Required

- *Reasoning About Causal Relationships*
- *Understanding Change in Complex Socio-Technical Systems*
- *Naturalistic investigations and models of reasoning about complex indeterminate causation*
- *History Lessons*
- *Civilization, Transformation, and Collapse*
- *Prediction and Explanation in Social Systems*
- *The Natural Science Underlying Big History*
- *The Intelligence Community Debate over Intuition versus Structured Technique: Implications for Improving Intelligence Warning and Analysis*

| Title | URL |
|---|---|
| <i>Reasoning About Causal Relationships, by Rottman and Hastie</i> | https://www.semanticscholar.org/paper/Reasoning-about-causal-relationships%3A-Inferences-on-Rottman-Hastie/575c4bb37d1cc633d49dfa04e779e5963cc4a8a2 |
| <i>Understanding Change in Complex Socio-Technical Systems, by Rouse and Serban</i> | https://pdfs.semanticscholar.org/1372/018043144c120f3a87872eed48f7faf0e347.pdf |
| <i>Naturalistic investigations and models of reasoning about complex indeterminate causation, Hoffman, Klein, and Miller</i> | https://pdfs.semanticscholar.org/56db/8b600efc4eb585da334887723a79d1791401.pdf |
| <i>History Lessons, by Trevor Harley</i> | https://discovery.dundee.ac.uk/ws/files/5236558/History_lessons_Harley_final.pdf |
| <i>Civilization, Transformation, and Collapse, by Kurt Springs</i> | https://thejournalofworldanthropology.wordpress.com/2015/04/17/civilization-transformation-and-collapse-by-kurt-d-springs-m-litt/ |
| <i>Prediction and Explanation in Social Systems, by Hofman, Sharma, and Watts</i> | http://science.sciencemag.org/content/355/6324/486 |
| <i>The Natural Science Underlying Big History, by Eric Chaisson</i> | https://arxiv.org/abs/1406.2730 |
| <i>The Intelligence Community Debate over Intuition versus Structured Technique: Implications for Improving Intelligence Warning and Analysis, by Sundri Khalsa</i> | https://journals.lib.unb.ca/index.php/JCS/article/view/15234/20804 |

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Module 4 Readings

Required

- *Firm Performance and the Axis of Errors*
- *How Predictable is Technological Progress?*
- *Dragon Kings, Black Swans, and the Prediction of Crises*
- *The Economics of Radical Uncertainty*
- *Time Scales in Economic Cycles*
- *What are Uncertainty Shocks?*

| Title | URL |
|--|---|
| <i>Firm Performance and the Axis of Errors, by Powell and Arregle</i> | https://www.researchgate.net/publication/228754383_Firm_performance_and_the_axis_of_errors |
| <i>How Predictable is Technological Progress?, by Farmer and Lafond</i> | https://arxiv.org/abs/1502.05274 |
| <i>Dragon Kings, Black Swans, and the Prediction of Crises, by Didier Sornette</i> | https://arxiv.org/pdf/0907.4290.pdf |
| <i>The Economics of Radical Uncertainty, by Paul Ormerod</i> | http://www.economics-ejournal.org/economics/discussionpapers/2015-40/file |
| <i>Time Scales in Economic Cycles, by Gevorkyan et al</i> | https://www.researchgate.net/publication/311486317_Time_Scales_and_Mechanisms_of_Economic_Cycles_A_Review_of_Theories_of_Long_Waves_I |
| <i>What are Uncertainty Shocks?, by Kozeniauskas</i> | https://site.stanford.edu/sites/g/files/sbiybj8706/f/4672-waus_final.pdf |

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Module 5 Readings

Required

- *How social influence can undermine the wisdom of crowd effect*
- *How Social Ranking Affects Choice Behavior*
- *Collective Dynamics of Belief Evolution under Cognitive Coherence and Social Conformity*
- *RAND: The Group Matters*
- *The Evolution of Overconfidence*
- *On the Evolutionary Emergence of Optimism*
- *When the appeal of a dominant leader is greater than a prestige leader*

| Title | URL |
|--|---|
| <i>How social influence can undermine the wisdom of crowd effect, by Lorenz et al</i> | https://www.pnas.org/content/pnas/108/22/9020.full.pdf |
| <i>How Social Ranking Affects Choice Behavior, by Bault et al</i> | https://dornsife.usc.edu/assets/sites/472/docs/Bault_Coricelli_Rustichini_PLoSone2008.pdf |
| <i>Collective Dynamics of Belief Evolution under Cognitive Coherence and Social Conformity, by Rodriguez et al</i> | https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0165910 |
| <i>RAND: The Group Matters, by Straus et al</i> | https://www.rand.org/content/dam/rand/pubs/working_papers/2009/RAND_WR580.pdf |
| <i>The Evolution of Overconfidence, by Johnson and Fowler</i> | http://fowler.ucsd.edu/evolution_of_overconfidence.pdf |
| <i>On the Evolutionary Emergence of Optimism, by Heifetz and Spiegel</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=247355 |
| <i>When the appeal of a dominant leader is greater than a prestige leader, by Kakkar and Sivanathan</i> | https://www.pnas.org/content/pnas/114/26/6734.full.pdf |

Optional

- Dynamics of organizational culture: Individual beliefs vs. social conformity
- Massive Emotional Contagion Through Networks
- The Evolution of Error
- Opinion Formation and the Collective Dynamics of Risk Perception
- Complex Contagions: A Decade in Review
- The detrimental effects of power on confidence, advice taking, and accuracy
- Social Learning Strategies Regulate the Wisdom and Madness of Interacting Crowds

| Title | URL |
|--|---|
| <i>Dynamics of organizational culture: Individual beliefs vs. social conformity, by Ellinas et al</i> | https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0180193 |
| <i>Massive Emotional Contagion Through Networks, by Kramer et al</i> | https://www.pnas.org/content/pnas/111/24/8788.full.pdf |
| <i>The Evolution of Error, by Johnson et al</i> | http://fowler.ucsd.edu/evolution_of_error.pdf |
| <i>Opinion Formation and the Collective Dynamics of Risk Perception, by Mehdi Moussaid</i> | https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0084592 |
| <i>Complex Contagions: A Decade in Review, by Guilbeault et al</i> | https://arxiv.org/abs/1710.07606 |
| <i>The detrimental effects of power on confidence, advice taking, and accuracy, by See et al</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1903943 |
| <i>Social learning strategies regulate the wisdom and madness of interactive crowds, by Toyokawa et al</i> | https://www.biorxiv.org/content/10.1101/326637v2 |

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Module 6 Readings

Required

- *Mitre/Jason Study of Anticipating Rare Events*
- *Hide in Plain Sight: The Strategic Challenge of Grey Swans*
- *Persistent Forecasting of Disruptive Technologies*
- *Thinking the Unthinkable*
- *Known unknowns: Unconventional “strategic shocks” in defense strategy development*
- *Critical Thoughts About Critical Thinking*

| Title | URL |
|--|---|
| <i>Jason Study of Anticipating Rare Events; by The Mitre Corporation</i> | https://fas.org/irp/agency/dod/jason/rare.pdf |
| <i>Hide in Plain Sight: The Strategic Challenge of Grey Swans, by Michael Mazarr</i> | https://www.worldpoliticsreview.com/articles/15153/hide-in-plain-sight-the-strategic-challenge-of-gray-swans |
| <i>Persistent Forecasting of Disruptive Technologies, by the National Research Council</i> | https://www.nap.edu/catalog/12557/persistent-forecasting-of-disruptive-technologies |
| <i>Thinking the Unthinkable, by Gowing and Langdon</i> | https://www.cimaglobal.com/Documents/Thought_leadership_docs/Enterprise_governance/Thinking-the-Unthinkable-cima-report.pdf |
| <i>Known Unknowns: Unconventional “strategic shocks” in defense strategy development, by Nathan Freier</i> | https://ssi.armywarcollege.edu/pdffiles/PUB890.pdf |
| <i>Critical Thoughts About Critical Thinking, by Gary Klein</i> | https://www.researchgate.net/publication/229028435_Critical_thoughts_about_critical_thinking |
| <i>Capability Surprise, by the Defense Science Board</i> | https://www.acq.osd.mil/dsb/reports/2000s/ADA506396.pdf |

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Module 7 Readings

Required

- *The Good, the Bad, and the Ugly of Predictive Science*
- *Forecasting When Power Law Distributions Apply*
- *Conditions for Intuitive Expertise*
- *Models, knowledge creation and their limits*
- *Known Unknowns: A Critical Determinant of Confidence and Calibration*

| Title | URL |
|---|---|
| <i>The Good, the Bad, and the Ugly of Predictive Science, by Hemez and Ben-Haim</i> | https://www.semanticscholar.org/paper/The-Good-%2C-The-Bad-%2C-and-The-Ugly-of-Predictive-Hemez-Ben-Haim/cdf0bd8ec2546428fb1b3d924c38e108fdbefc42 |
| <i>Forecasting When Power Law Distributions Apply, by Richard Logan</i> | http://researcharchive.vuw.ac.nz/handle/10063/2030 |
| <i>Conditions for Intuitive Expertise, by Kahneman and Klein</i> | https://www.semanticscholar.org/paper/Conditions-for-intuitive-expertise%3A-a-failure-to-Kahneman-Klein/10312869eec343ca563cc603775aa4e6a2bda023 |
| <i>Models, knowledge creation and their limits, Allen and Strathern</i> | https://www.researchgate.net/publication/247150397_Models_knowledge_creation_and_their_limits |
| <i>Known Unknowns: A Critical Determinant of Confidence and Calibration, by Walters et al</i> | https://marketing.wharton.upenn.edu/wp-content/uploads/2015/04/WALTERS-DANIELS-JMP.pdf |

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Module 8 Readings

Required

- *Lessons in Adaptability and Preparing for Black Swan Risks from the Military and Hedge Funds*
- *Never Underestimate the Immune System*
- *The Downfall of Adaptive Planning*
- *Conceptual Framework for Adaptation*
- *Adaptive Teams*
- *Chasing a Moving Target: Exploitation and Exploration in Dynamic Environments*
- *Mental Representation and the Discovery of New Strategies*
- *The Bias Against Creativity: Why People Desire But Reject Creative Ideas*

| Title | URL |
|--|---|
| <i>Lessons in Adaptability and Preparing for Black Swan Risks from the Military and Hedge Funds, by Burns and Miller</i> | https://apps.dtic.mil/dtic/tr/fulltext/u2/a604358.pdf |
| <i>Never Underestimate the Immune System, by John Hagel</i> | https://edgeperspectives.typepad.com/edge_perspectives/2017/12/never-under-estimate-the-immune-system.html |
| <i>The Downfall of Adaptive Planning, by Lt. Colonel John Price</i> | https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-26_Issue-2/Price.pdf |
| <i>Conceptual Framework for Adaptation, by Anne-Marie Grisogono</i> | No link available. Download from SRI website. |
| <i>Adaptive Teams, by Klein and Pierce</i> | https://www.researchgate.net/publication/228708514_Adaptive_teams |
| <i>Chasing a Moving Target: Exploitation and Exploration in Dynamic Environments, by Posen and Levinthal</i> | https://faculty.wharton.upenn.edu/wp-content/uploads/2012/12/Chasing-a-Moving-Target.pdf |

| Title | URL |
|---|---|
| <i>Mental Representation and the Discovery of New Strategies, by Csaszar and Levinthal</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2267568 |
| <i>The Bias Against Creativity: Why People Desire But Reject Creative Ideas, by Mueller et al</i> | https://www.researchgate.net/publication/51840158_The_Bias_Against_Creativity_Why_People_Desire_But_Reject_Creative_Ideas |

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Module 9 Readings

Required

- *Management as Technology*
- *Keynesian uncertainty and the shaky foundations of statistical risk assessment models*
- *The Lesson of Lost Value*
- *Strategic Risk: It's All in Your Head*
- *Mental Models, Decision Rules, and Performance Heterogeneity*
- *The Vexing Issue of "Risk Appetite"*
- *Future Failures that Lurk in Your Risk Register*

| Title | URL |
|---|---|
| <i>Management as Technology, by Bloom et al</i> | https://www.hbs.edu/faculty/Publication%20Files/16-133_64fd57c1-5f76-415a-9567-f1c0d310aff3.pdf |
| <i>Keynesian uncertainty and the shaky foundations of statistical risk assessment models, by Alessandro Roncaglia</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2517281 |
| <i>The Lesson of Lost Value, by Dann et al</i> | https://www.strategy-business.com/media/file/00146-Lesson-Lost-Value.pdf |
| <i>Strategic Risk: It's All in Your Head, by Allan and Beer</i> | http://www.bath.ac.uk/management/research/pdf/2006-01.pdf |
| <i>Mental Models, Decision Rules, and Performance Heterogeneity, by Gary and Wood</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1095665 |
| <i>The Vexing Issue of "Risk Appetite", by Tom Coyne</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2277964 |
| <i>Future Failures that Lurk in Your Risk Register by Britten and Coyne</i> | Download from SRI website. |

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Strategic Risk Governance and Management Course

Module 10 Readings

Required

- *The Chairman and the CEO: The Bearing Point or the Odd Couple?*
- *Managing in a Pareto World Calls for New Thinking*
- *The role of conviction and narrative in decision-making under radical uncertainty*
- *Boards must be more combative*
- *Risk Governance Deficits*
- *The Influence of Board of Directors' Risk Oversight on Risk Management Maturity and Firm Risk-Taking*

| Title | URL |
|---|---|
| <i>The Chairman and the CEO: The Bearing Point or the Odd Couple?, by Neil Britten</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2804054 |
| <i>Managing in a Pareto World Calls for New Thinking, by Andriani and McKelvey</i> | http://www.billmckelvey.org/documents/working%20papers/2008%20Andriani,%20McKelvey(08)-Managing%20in%20a%20Pareto%20World--Circulation--Dec.pdf |
| <i>The role of conviction and narrative in decision-making under radical uncertainty, by Tuckett and Nikolic</i> | https://www.researchgate.net/publication/307905267_The_Role_of_Conviction_and_Narrative_in_Decision_Making_under_Radical_Uncertainty |
| <i>Boards must be more combative, by Stuart Jackson</i> | https://hbr.org/2017/01/boards-must-be-more-combative |
| <i>Risk Governance Deficits, by the International Risk Governance Council</i> | https://irgc.org/risk-governance/irgc-risk-governance-deficits/ |
| <i>The Influence of Board of Directors' Risk Oversight on Risk Management Maturity and Firm Risk-Taking, by Ittner and Keusch</i> | https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482791 |

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Module 11 Readings

Required

- *Deep Learning: A Critical Appraisal*
- *The Next Decade in AI*
- *Theoretical Impediments to Machine Learning*
- *Statistics versus Data Mining*
- *Machine Learning at Central Banks*
- *Building Machines that Learn and Think Like People*
- *Human-AI Decision Systems*
- *Big Data Need Big Theory Too*
- *When and Where Do We Apply What We Learn? A Taxonomy for Far Transfer*

| Title | URL |
|---|---|
| <i>Deep Learning: A Critical Appraisal, by Gary Marcus</i> | https://arxiv.org/pdf/1801.00631.pdf |
| <i>The Next Decade in AI</i> | https://arxiv.org/pdf/2002.06177.pdf |
| <i>Theoretical Impediments to Machine Learning, by Judea Pearl</i> | https://arxiv.org/pdf/1801.04016.pdf |
| <i>Statistics versus Data Mining: Intersecting Disciplines, by David Hand</i> | https://www.kdd.org/exploration_files/hand.pdf |
| <i>Machine Learning at Central Banks, by Chakraborty and Joseph</i> | https://www.bankofengland.co.uk/working-paper/2017/machine-learning-at-central-banks |
| <i>Building Machines that Learn and Think Like People, by Lake et al</i> | https://arxiv.org/pdf/1604.00289.pdf |
| <i>Human-AI Decision Systems, by Sandy Pentland</i> | https://thehumanstrategy.mit.edu/blog/human-ai-decision-systems |
| <i>Big Data Need Big Theory Too, by Coveney et al</i> | https://royalsocietypublishing.org/doi/full/10.1098/rsta.2016.0153 |
| <i>When and Where Do We Apply What We Learn? A Taxonomy for Far Transfer, by Barnett and Ceci</i> | https://rapunselshair.pbworks.com/f/barnett_2002.pdf |