Strategic Project Management

A brief overview

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Today project work became a fundamental part of doing work. As the world becomes more and more uncertain and unstable, designing repeated processes[1] become less and less beneficial. In the industrial era, businesses could afford to break down complex tasks into their parts and make every process standardized.[2] Combining repetitive work with top-down management allowed organizations to deliver the same product in a consistent manner.[3] However, consistency has its downsides in a highly volatile environment. When conditions outside of the organization's control change suddenly, businesses can't afford to have highly standardized, rigid work processes. By creating *economies of scale* we often sacrifice agility and adaptiveness to change.[4] Management expert Tom Peters argues the way we do work changed completely.[5] Businesses should accommodate the uncertainty involved in every business situation. We need to make highly flexible processes that are able to deal with the uniqueness of every challenge we might encounter. As the environment grows more and more unstable we need to take an increasingly agile approach to work.[6] As today's business cycles shrink to smaller and smaller sizes businesses need to be more flexible than ever.

In *The Lean Startup*, Eric Ries argues many of the leading business thinkers expressed their concerns about top-down, rigid and highly limited management systems.[7] Many businesses are using management processes that are no longer the best fit for today's economic environment. Standardizing processes and making them highly repetitive in a constantly changing world can be a waste of business resources.[8] Businesses often end up making products customers don't want or are not willing to pay for.[9] This "standardized" thinking was the underlying reason behind many business failures since the middle of the 20th century.[10] Executives thought if management is the problem, then chaos is the answer.[11] But approaching business problems from a "chaos" perspective is not the best way of managing either. Eric Ries

argues, entrepreneurship is management.[12] We need a different, more flexible management system than a hundred years ago. But we definitely cannot build a successful business without it.

Project management can address the highly uncertain and volatile nature of today's business environment. At the same time, we can put rigorous management systems in place that can help consistently deliver results. Perhaps that is the reason why projects become a central part of doing work today. Project management is a particularly important skill of today's managers as the number of projects is growing continuously since the early 1990s.[13]

A project by definition is *"a temporary endeavour undertaken to accomplish a unique product or service".[14]* This temporary nature of projects allows us to take one situation and business opportunity at a time and address it more flexibly.

A project master plan should address every important detail related to the project. At the same time, it also needs to view the project from a birds-eye perspective by putting the project into the context of the larger enterprise.[15] Every project has its constraints that structures work and make the people involved accountable. The first job of a project manager is to determine the constraints that will put the projects on the right trajectory. A project needs to have a *scope goal* that determines what is the project trying to accomplish. The *time goal* determines the time we have to complete the project. We also need to set a *cost goal* to see how many resources do we need to allocate for the project.[16]

We should start planning by considering the interests of various stakeholders, their scope, roles as well as the relationship with other stakeholders. These can include the *project sponsor and project team, support staff, customers, users, suppliers, opponents to the projects*. A good project manager knows how to balance the needs and expectations of all stakeholders and synchronize their goals. To do that managers need to have a broad area of expertise across multiple business activities. Management scholars distinguish between nine *project management knowledge areas* a manager needs to be familiar with.[17] These include 4 core knowledge areas and 4 facilitating knowledge areas as well as 1 knowledge area that aims to integrate all the above. The four core knowledge areas include planning and managing the *project scope*, *time constraints*, the *cost* of the project and the *quality* of the delivered results. The four facilitating areas allow us to achieve project objectives. These include managing *human resources*, *risk* and *procurement* management as well as maintaining appropriate *communication* among all continuance of the project.

After taking all of the above aspects into consideration our goal is to get the project proposal accepted. Buy-in from people that are capable of providing the necessary resources the project needs is crucial at this stage of the process. By defining the project scope we can establish boundaries. It is important to define what are the problems we want to solve and what are the ones that are beyond the scope of the project. (For example, let's say we consider the modernization of a healthcare facility. By establishing the project scope we can tell which parts, activities and processes we want to modernize and to what extent.)[18] It is quite common for projects to expand over time. That's why need to limit our commitments if we want to complete the project on time and within budget. By establishing project priorities we can focus our effort on the things that matter most.[19] By clarifying the goals we want to achieve we can make necessary trade-offs without sacrificing our most important needs.

After establishing project priorities and clarifying project tradeoffs we need to create a clear *Work Breakdown Structure (WBS).* It is a visual representation of all the work that defines the relationship between the end goal of the project and the means by which the end goal is achieved.[20] WBS is a useful tool for coordinating the work and aligning employees across multiple levels of the organization. It is particularly important to clarify *Work Packages,* the lowest level of the *WBS*. It can give tangible and concrete goals for employees during the implementation phase of the project. It is scientifically proven that having specific, measurable, achievable, relevant and time-bound goals can greatly enhance performance.[21]

Integrating the *WBS* with the *Organizational Breakdown Structure (OBS)* makes it easier to create alignment among the project team and other members of the organization.[22] Aligning strategy with individual projects we undertake is crucially important. Otherwise, we can end up working toward goals that are actually not strategic priorities of the organization. If our actions are not in synchrony with the organization's overall strategy we can end up optimizing for a *local maximum* instead of progressing towards a *global maximum.*[23]

Planning and managing time constraints is also crucial at all stages of the project. Perhaps the best way of managing time is by using project management diagrams.[24] The most popular diagrams include *Gantt Charts*, *PERT Charts* and *Network Diagrams*. Gannt Charts are perhaps the most widely used tool in project management. It was developed by Henry Gantt in the year 1910 and gained wide acceptance, particularly in the field of project management.[25] It has two main parts: a horizontal axis that is constructed to represent the total time span of a period. This line is broken into increments to depict days, weeks or months. This timeline

illustrates when each activity starts, how long it continues, and when it ends. The vertical axis is constructed to represent all the tasks related to the project. Because of its simplicity, it is perhaps the most widely used tool in project management. However, the biggest constraint of the Gantt chart is that it cannot be used to represent the dependencies and relationships between different scheduled tasks.[26] *Network Diagrams* are the most complex tool for visually representing project workflow.[27] It shows linkages between different tasks and the chronological sequence of various tasks. *Network Diagrams* are perhaps more difficult to build, but they can be helpful to visually represent the dependencies between different tasks of the project.[28] For example, it helps us estimate what will be the consequence if a task does not get completed on time.

After we have a visual representation of all tasks related to the project we can determine the duration of the project. It is not an exact science, it is difficult if not impossible to be 100% accurate in advance of the time we need to complete a complex project.[29] However, using mathematical models can enhance the accuracy of our estimation. The three most widely used mathematical analyses used by project teams are *Critical Path Method (CPM)*,[30] *Program Evaluation and Review Technique (PERT)*, and *Graphical Evaluation and Review Technique (GERT)*.[31]

Critical Path Method (CPM) is a good way to analyze the project network. It aims to determine the earliest time by which the project can be completed. We need to develop a good project network diagram and examine the longest path through the network diagram. *Program Evaluation and Review Technique (PERT)* on the other hand is a useful tool when there is a high level of uncertainty involved in the project.

Program Evaluation and Review Technique (PERT) is an analysis technique that uses probabilistic time estimates by examining the optimistic, most likely and pessimistic durations of each activity.[32] PERT uses a weighted average formula to estimate the duration of a project, where the most likely time estimate will have a higher weight than the optimistic and pessimistic time estimates.

Graphical Evaluation and Review Technique (GERT) analysis takes our ability to deal with uncertainty to a new level. GERT is mainly used in complex systems and in cases when we perform a task repeatedly, more than once (in a loop).[33] GERT addresses the main limitations of CPM and PERT. It allows us to express our findings as probabilities instead of just having one single competition data at the end of the day. This way it is much more likely that we will meet our scheduled target time if we express it as duration and probability of appearance. GERT is considered less accurate than CPM and PERT by many management

scholars. However, using GERT analysis in complex systems can overcome the limitations of CPM and PERT. A few of these limitations are: there are no alternative paths - all activities have to be performed; there are no loops - it is not possible to repeat the activity, next similar activity has to be added; there are no decisions in the diagram - no *and*, or, *or* options which help to choose the proper path; there are no scaling - it is not possible to replace some detailed group of activities with the one summary task.[34] Despite its benefits, GERT is a highly sophisticated diagram that requires running complex simulations performed by computers. One of the most commonly used simulations is the *Monte Carlo Simulation*.[35]

Another unfortunate but common tendency of project managers is that they often underestimate the costs of a project. Project scope, project time and project cost are in a strong correlation with one another. As the project scope tend to expand over time, that can negatively affect project costs and project completion time as well. By reducing project scope we can reduce completion time and project costs as well.[36] Effective cost management includes estimating, budgeting and controlling costs. While estimating costs we can use a top-down approach taking similar projects as a reference point of estimation. We can also use a bottom-up approach by estimating individual work items. We can also use a parametric approach by using mathematical models to estimate costs.[37] Cost budgeting involves the allocation of resources the way that serves the most effective delivery of project outcomes. Clayton Christensen argues, resource allocation and innovation is the two side of the same coin.[38] Companies who fail to allocate resources for projects with a high expected future return set up themselves for failure. Controlling costs involves monitoring project performance and ensuring the availability of funds in case if the project changes. Cost control also means keeping people accountable for their actions and commitments.[39]

Effectively managing quality is also a crucial competence of a good project manager. The International Organization for Standardization (ISO) defines quality as the totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs.[40] In other words, with the project completion it must deliver the promised results. Managers often use the word *requirement* for defining the characteristics of the product or service and the function it has to fulfil. However, Jez Humble, Joanne Molesky and Barry O'Reilly argue, companies often define requirements in the wrong way.[41] Product requirements are often defined from an engineering or business perspective. However, it would be a much better approach to take the time to test products with real customers we can gain an in-depth understanding of real

customer needs. After doing that we can better define quality from the perspective of our customers and build products customers are willing to pay for.[42]

After we gained a deep understanding of what we have to deliver, we can better *plan*, *assure* and *control* quality delivery. Effective *quality planning* involves identifying which quality standards are relevant to the respective customers.[43] *Quality assurance* means consistently meeting the established quality standards. The main goal of quality assurance is the consistent monitoring of quality. Improving quality through *quality control* and *continuous improvement*[44] and processes can be a significant competitive advantage.

Regardless of how heavily we rely on technology while managing projects, at the end of the day people can play a central role in every project delivery. Behavioural factors can have a huge influence on the success of the project as a whole. Effectively managing people is one of the most important duties of project managers.[45]

Managers need to craft the delicate skill of motivating people. The best managers can encourage people to do extraordinary things that they would have never done otherwise. Effective goal setting can have a great positive effect on employee motivation, argues legendary investor John Doerr.[46] Harvard researchers Steven Kramer and Teresa Amabile have published their interesting findings in 2011 on employee motivation.[47] They argue, the most powerful motivating factor can be a sense of progress. If employees can feel that they make real progress their performance can improve significantly. We can also make a great impact by effectively appreciating employees. Giving the right kind of feedback at the right time in the right way can be a game-changer.[48] Organizational performance expert Daniel Coyle in his insightful book[49] published his findings of the characteristics of high-performing teams. Members of these teams have a sense of security when they are with each other, let's call it psychological safety.[50] They are all willing to be vulnerable with one another by openly sharing mistakes and shortcomings.[51] They also have a strong sense of purpose and shared meaning that makes the team more coherent. Giving people responsibility can be a powerful motivator. If they feel a strong sense of ownership for the project they are working on they are willing to do everything to make it a success.

Learning theorists have shown us, people learn best by observing others and trying to imitate the observed behaviour.[52] In other words, we learn best by taking concrete action.[53] As organizational culture expert Edgar Schein argues the behaviour of leaders and members in a group setting can have a much stronger influence on people than written rules and regulations.[54] Therefore the effective training of managers and employees starts with building an open

organizational culture. Breaking down barriers between "spoken and upspoken" worlds can result in a more coherent culture that can consistently deliver great results. As John Maxwell put it, the highest level of leadership is when you can develop leaders around you.[55] By making leadership development an integral part of the organizational culture we can make sure we will have a pipeline of great leaders and managers in the future.

Product managers also need to be effective communicators. They have to be the connection point between various stakeholders throughout the organization. Balancing the needs and desires of every stakeholder can be a great challenge. However, having a shared purpose and meaning can be a powerful force while creating alignment.

Being in possession of the right information is necessary for every project. Project managers need to determine the information and communication needs of the stakeholders. They also have to make sure all necessary information is available when we need it. Giving timely feedback and performance information is also crucial.[56] At the closure of the project, gathering, generating and formalizing project information makes it easier to learn from our mistakes and replicate successes.[57] However, having too much information to deal with can be as harmful as not having any information at all.[58] We need to prioritize, communicate and take action based on the information that is relevant in our situation. Lean thinkers call this OMTM (One Metric That Matters).[59]

During a project work, we have to manage many highly interrelated and interconnected activities. Therefore sometimes managers need to make certain trade-offs because of the conflicting interests of the many stakeholders.[60] Therefore conflict handling[61] and effectively communicating the interests of other stakeholders is an important task of project managers. Daniel Goleman, the pioneer of the concept of emotional intelligence argues, technical skills become less and less important as leaders progress towards higher leadership positions.[62] Social intelligence and people related skills become the most important skills of an effective leader.[63]

Every business decision involves *risk* because of the uncertainty inherent in every complex situation. As I mentioned before, as the world becomes increasingly unstable and volatile, uncertainty can have an enormous influence on decision making situations.[64]

Considering the factors outside the firm's control and calculating the potential risk of encountering something unexpected can be a significant strategic advantage. Nobel-prize-winning psychologist, Daniel Kahneman calls this the shift between an *"inside view"* and an

"outside view".[65] He argues, executives often fall prey to this bias while making strategic decisions. This thinking bias can be responsible for many strategic failures.[66]

Obsessively focusing on factors outside of the organization's control can be highly beneficial in complex business situations. Gabriele Oettingen studied this phenomenon for more than 25 years.[67] She scientifically proved that having a focus on obstacles and things that are outside of our control can lead to much greater results and achievements than just following our dreams and fantasies.[68] This is even more relevant in making high-stake business decisions.

Options trader and philosopher Nassim Nicholas Taleb argues, with the increased level of complexity we are simultaneously experiencing an increased amount of unpredictability and uncertainty.[69] [70] Predictions are becoming less and less accurate because of the ever-increasing number of variables involved in every business decision.[71] Because of the decreasing believability of expert forecasting, we are less and less able to make decisions that were much easier to make in the past.[72] All these findings suggest we need to have solid *risk management* processes in place.

First of all, we need to *identify risks*.[73] We need to examine business situations from multiple perspectives. Generating as many scenarios about what can go wrong can be a useful approach. We can use brainstorming sessions[74] as well inviting input from employees from all organizational levels can be useful approaches.[75] It is beneficial to examine the macro scale fists and then the specific situations. Conducting a *PESTLE*[76] and *Porter's Five Forces*[77] analysis can be useful at this stage.

Secondly, we have to accurately *assess* the risk involved in certain situations.[78] We could use scenario analysis,[79] *Failure Mode and Effects Analysis (FMEA)*[80] and other kinds of probability analysis as well. Carl Spetzler decision-making expert argues Decision Trees can be a powerful tool when assessing multiple options that involve significant uncertainty.[81]

After *identifying* and *assessing* the risks involved we need to develop effective response scenarios to tackle risk factors. Our goal is to reduce the likelihood of an adverse event will occur.[82] On the other hand, reducing the effect of these negative events is also critical. It is a great way of mitigating risk to make several *contingency plans*[83] in case an adverse event occurs.

Being a project manager can be an overwhelming task. Seeing the seemingly endless amount of details we can easily forget the need of seeing the big picture. A good project manager can integrate all details into a coherent narrative and take action following the strategic

direction of the organization. Managers need to take an active part in all processes from the emergence of a *concept*, throughout the *development* and *integration* phases of the project until the completion and *closing* of the project.[84] As project managers need to effectively mobilize people, deal with interrelated and interconnected systems, effectively manage conflicting interests of various stakeholders. We need to stay on track even when things do not go according to plan. We also need to continuously monitor the project and make course corrections if needed.[85] However, as Daniel Goleman argues the ultimate job of effective managers and leaders is to produce results.[86] This is impossible without building strong, high-performing teams and awakening people's desire to achieve something extraordinary. As the French aviator and writer Antoine de Saint-Exupéry put it: *"If you want to build a ship, don't drum up the men to gather wood, divide the work, and give orders. Instead, teach them to yearn for the vast and endless sea."*[87]

Endnotes

1. Henry Ford, Today and Tomorrow: Commemorative Edition of Ford's 1926 Classic, Taylor & Francis, 2019, Originally published: 1926

2. Frederick Winslow Taylor, The Principles of Scientific Management, New York, 2006, Originally published: 1911

3. Adam Smith, The Wealth of Nations, BookRix, 2018, Originally published: 9 March 1776

4. Ohno, Taiichi. Toyota Production System: Beyond Large-Scale Production. United Kingdom, Taylor & Francis, 2019.

5. Peters, Tom. The Project50 (Reinventing Work): Fifty Ways to Transform Every "Task" Into a Project That Matters!. United Kingdom, Knopf Doubleday Publishing Group, 1999.

6. Cohn, Mike. Succeeding with Agile: Software Development Using Scrum. Germany, Addison-Wesley, 2010.

7. Ries, Eric. The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses. United States, Currency, 2017

8. Blank, Steve. The Four Steps to the Epiphany: Successful Strategies for Products that Win. United States, Steve Blank, 2013.

9. Alvarez, Cindy. Lean Customer Development (Hardcover Version): Building Products Your Customers Will Buy. United States, O'Reilly Media, 2014

10. Dorf, Bob, and Blank, Steve. The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company. United States, Wiley, 2020

11. Expression from Eric Ries. Ries, Eric. The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses. United States, Currency, 2017

12. Ibid.

13. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

14. Idib.

15. Ibid.

16. Ibid.

17. Ibid.

18. For further reading on how to establish project scope, see: Meyer, Jennifer, et al. Decision Quality: Value Creation from Better Business Decisions. Germany, Wiley, 2016

19. Lean thinkers call this OMTM (One Metric That Matters). For further reading see: Yoskovitz, Benjamin, and Croll, Alistair. Lean Analytics: Use Data to Build a Better Startup Faster. Japan, O'Reilly Media, Incorporated, 2013.

20. Norman, Eric S., et al. Work Breakdown Structures: The Foundation for Project Management Excellence. Germany, Wiley, 2010.

21. Latham, Gary P., and Edwin A. Locke. "Goal setting theory: Controversies and resolutions." (2018); Bovend'Eerdt, Thamar JH, Rachel E. Botell, and Derick T. Wade. "Writing SMART rehabilitation goals and achieving goal attainment scaling: a practical guide." Clinical rehabilitation 23.4 (2009): 352-361; Austin, James T., and Philip Bobko. "Goal-setting theory: Unexplored areas and future research needs." Journal of Occupational Psychology 58.4 (1985): 289-308

22. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

23. This is a mathematical theory that can help explain problems with organizational alignment.
Gan, Li, and Jiming Jiang. "A test for global maximum." Journal of the American Statistical Association 94.447 (1999): 847-854.

24. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

25. Clark, Wallace (1922). The Gantt Chart: A Working Tool of Management. New York, NY: Ronald Press

26. Maylor, Harvey. "Beyond the Gantt chart:: Project management moving on." European management journal 19.1 (2001): 92-100.

27. Pinto, Jeffrey K. (2019). Project management : achieving competitive advantage (Fifth ed.). New York, NY. pp. 316–319. ISBN 978-0-13-473033-2. OCLC 1007502136.

28. https://www.projectmanager.com/blog/gantt-vs-pert-vs-network-diagram

29. https://www.linkedin.com/pulse/20140618054203-58881633-cpm-pert-and-gert-retrieved-from-web

30. Kramer, S. W. & Jenkins, J. L. (2006). Understanding the basics of CPM calculations: what is scheduling software really telling you? Paper presented at PMI® Global Congress 2006—North America, Seattle, WA. Newtown Square, PA: Project Management Institute.

31. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

32. Cook, Desmond Lawrence. Program evaluation and review technique: Applications in education. No. 17. US Department of health, education, and welfare, Office of education, 1966.

33. Pritsker, A. Alan B. GERT: Graphical evaluation and review technique. Santa Monica, CA: Rand Corporation, 1966.

34. Modeling and Analysis Using Q-GERT Networks A. Alan B. Pritsker, 2nd Edition, Wiley, 1979 ISBN 0-470-26648-1

35. Mooney, Christopher Z. Monte carlo simulation. No. 116. Sage, 1997

36. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

37. Ibid.

38. Christensen, Clayton M.. The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. United States, Harvard Business Review Press, 2015.

39. Fisher, Elliott S., and Stephen M. Shortell. "Accountable care organizations: accountable for what, to whom, and how." Jama 304.15 (2010): 1715-1716

40. https://www.iso.org/standards.html

41. Molesky, Joanne, et al. Lean Enterprise. Japan, O'Reilly, 2015

42. Alvarez, Cindy. Lean Customer Development: Building Products Your Customers Will Buy. United States, O'Reilly Media, 2014

43. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

44. van Aartsengel, Aristide, and Kurtoglu, Selahattin. Handbook on Continuous Improvement Transformation: The Lean Six Sigma Framework and Systematic Methodology for Implementation. Germany, Springer Berlin Heidelberg, 2013.

45. Vericourt, Francis de, et al. Framers: Human Advantage in an Age of Technology and Turmoil. United Kingdom, Ebury Publishing, 2021.

46. Doerr, John. Measure What Matters: How Google, Bono, and the Gates Foundation Rock the World with OKRs. United States, Penguin Publishing Group, 2018.

47. Kramer, Steven, and Amabile, Teresa. The Progress Principle: Using Small Wins to Ignite Joy, Engagement, and Creativity at Work. United States, Harvard Business Review Press

48. Von Bergen, C. W., Martin S. Bressler, and Kitty Campbell. "The sandwich feedback method: not very tasty." Journal of Behavioral Studies in business 7 (2014)

49. Coyle, Daniel. The Culture Code: The Secrets of Highly Successful Groups. United Kingdom, Random House, 2018

50. Edmondson, Amy C.. The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth. United Kingdom, Wiley, 2018

51. More on this: Kaplan, Barry, and Manchester, Jeffrey. The Power of Vulnerability: How to Create a Team of Leaders by Shifting Inward. United States, Greenleaf Book Group Press, 2018

52. Hickok, Gregory. The Myth of Mirror Neurons: The Real Neuroscience of Communication and Cognition. United Kingdom, W. W. Norton, 2014

53. McGill, Ian, and Brockbank, Anne. The Action Learning Handbook: Powerful Techniques for Education, Professional Development and Training. United Kingdom, Taylor & Francis, 2003

54. Schein, Edgar H., and Schein, Peter. Organizational Culture and Leadership. Germany, Wiley, 2016

55. Maxwell, John C.. The 5 Levels of Leadership: Proven Steps to Maximize Your Potential. United States, Center Street, 2011

56. Meadows, Donella H.. Thinking in Systems: A Primer. United Kingdom, Chelsea Green Publishing, 2008

57. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

58. Ulijn, Jan M., et al. Information Overload: An International Challenge for Professional Engineers and Technical Communicators. Germany, Wiley, 2012

59. Yoskovitz, Benjamin, and Croll, Alistair. Lean Analytics: Use Data to Build a Better Startup Faster. Japan, O'Reilly Media, Incorporated, 2013

60. The concept of trade-offs is perhaps best described by Carl Spetzler, Hannah Winter and Jennifer Meyer.

Winter, Hannah, et al. Decision Quality: Value Creation from Better Business Decisions. Germany, Wiley, 2016

61.   Altmäe, Sigrit, Kulno Türk, and Ott-Siim Toomet. "Thomas-Kilmann's Conflict Management Modes and their relationship to Fiedler's Leadership Styles (basing on Estonian organizations)." Baltic Journal of Management (2013)

62.   Goleman, Daniel. What Makes a Leader?(Harvard Business Review Classics). Harvard Business Press, 2017

63.   Goleman, Daniel. Social Intelligence: The New Science of Human Relationships. United Kingdom, Random House, 2011

64.   Taleb, Nassim Nicholas. The Black Swan: The Impact of the Highly Improbable. United Kingdom, Penguin Books Limited, 2008

65.   Daniel Kahneman, Thinking, Fast and Slow, Penguin Books, 2011

66.   Kahneman, Daniel, Dan Lovallo, and Olivier Sibony. "Before you make that big decision." (2011)

67.   Oettingen, Gabriele. Rethinking Positive Thinking: Inside the New Science of Motivation. United States, Penguin Publishing Group, 2014

68.   Oettingen, Gabriele, and Doris Mayer. "The motivating function of thinking about the future: expectations versus fantasies." Journal of personality and social psychology 83.5 (2002): 1198

69.   Taleb, Nassim Nicholas. Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets. United Kingdom, Penguin Adult, 2007

70.   Blyth, Mark. "Coping with the black swan: The unsettling world of Nassim Taleb." Critical Review 21.4 (2009): 447-465

71.   Tetlock, Philip E., and Dan Gardner. Superforecasting: The art and science of prediction. Random House, 2016

72.   Tetlock, Philip E. Expert political judgment. Princeton University Press, 2009

73.   Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

74.   Osborn, Alex. Applied Imagination - Principles and Procedures of Creative Writing. United Kingdom, Read Books Limited, 2012

75.   Grant, Adam. Originals: How Non-conformists Change the World. United Kingdom, Ebury Publishing, 2016

76. Rashain Perera, The PESTLE Analysis, Independently Published, 2017

77. Porter, Michael E. "Competitive strategy: Techniques for analyzing industries and competitors." (1980)

78. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

79. Postma, Theo JBM, and Franz Liebl. "How to improve scenario analysis as a strategic management tool?." Technological Forecasting and Social Change 72.2 (2005): 161-173

80. Ben-Daya, Mohamed, and Abdul Raouf. "A revised failure mode and effects analysis model." International Journal of Quality & Reliability Management (1996)

81. Meyer, Jennifer, et al. Decision Quality: Value Creation from Better Business Decisions. Germany, Wiley, 2016

82. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

83. Baird, Inga Skromme, and Howard Thomas. "Toward a contingency model of strategic risk taking." Academy of management Review 10.2 (1985): 230-243

84. Project Management Institute, Guide to the Project Management Body of Knowledge (PMBOK Guide) and the Standard for Project Management. United States, Project Management Institute, 2021

85. Curlee, Wanda, and Robert L. Gordon. Complexity theory and project management. John Wiley & Sons, 2010

86. Goleman, Daniel. What Makes a Leader?(Harvard Business Review Classics). Harvard Business Press, 2017

87. Saint-Exupéry, Antoine de. The Wisdom of the Sands. United Kingdom, Harcourt, Brace, 1950