

OM 302

Quiz 1

Study Guide

as of 9/9/20

Due by midnight on Saturday, 10/3/20

The following concepts will be on this quiz:

1. Which of these trends will affect employment prospects for new graduates?

The demographic, technological, and geopolitical trends will affect the structure of future employment opportunities.

2. The trajectory of the path that ends at the point on the timeline called “Today” depicts: the path on which a firm will find itself (whether on the desired path or a feared path) based on the quality of decision making.

3. Gap analysis is an example of what type of analysis? This is a forensic type of analysis.

4. “Regression to the Mean”: The process by which competitors chisel away one’s absolute advantage if it is not protected. This is a process of commoditization of business.

5. Absolute Competitive Advantage Period: is the time interval during which an organization can deliver superior returns on invested capital.

6. Competitive Advantage: A single competitive advantage is not enough to win in the marketplace. A firm has to have an absolute competitive advantage.

7. The Economic Moat is: The moat is a set of the barriers to exit by customers and the barriers to entry by competitors.

8. Morningstar’s approach to investing: is based on the width (strength) of an economic moat.

9. The concept of “Crossing the Chasm”: The space between early adopters and early majority where companies that cannot scale cannot cross and disappear.

10. Business Ecosystem: the necessary set of partners, suppliers, and collaborators that together enable the operations of a firm.

11. Operations Domain vs. Marketing Domain: are two concepts that cannot be disconnected from each other. Marketing promises and operations delivers.

12. Systems thinking: it is a cross-functional, cross-disciplinary approach to planning, implementing, and managing business activities and operations. It is a superior decision-making process.

13. Organizational alignment: it necessary for any organization that wants to succeed in the marketplace. The ultimate goal should be transparent to all in the organization. All actions should focused on reaching that goal in an effective and efficient manner.

14. Unique Business Model: is a prerequisite that is required before any implementation can commence. A model that is not unique is a “me too” model and does not offer any meaningful differentiation.

15. System’s Reliability: the quality has to be designed and tested in. It cannot be tested out. Errors will propagate and magnify as they traverse the system.

16. The “Moment of Truth”: this is the moment when customers select their brand of preference.

17. Lateral thinking and thinking outside the box: is the original, unique, creative thinking that is necessary for firms to succeed.

18. “Blue Ocean” strategy: A methodology where companies should seek uncontested business opportunities (blue oceans) and avoid competing head on with each other (red oceans).

19. Short-term vs. long term planning: Bad pushes good in the short term. It is always better to have a long view and support it with the necessary resources.

20. The rights of shareholders vs the rights of stakeholders: The right of shareholders, by law, supersede the right of stakeholders.

21. E-waste: based on the video shown in class.

22. Traffic connection and air pollution are examples of: negative externalities where the third party pays the price for the actions of other parties.

23. Decision tree approach to making ethical choice: the first question always has to be: Is the action/decision legal? Then the subsequent questions need to address the impact of such decision on shareholders and on stakeholders. The third question has to be: Is the decision ethical?

24. Risk-taking and utility theory: this theory classifies every decision made as either risk taker, risk avoider, or risk neutral. It is of most importance that good decisions that are made create value and avoid ones that can destroy value. A misalignment between the risk profile of a decision maker and the context within which a decision needs to be made may lead to bad decisions that destroy value.

25. IBM and WWII: It is of utmost importance to take the right side on the basis of legality, ethics, and morality.

26. Milton Friedman's video "The Pencil": There is no one person in the world who would know how to build a pencil. This is an extended view of concepts such as supply chains, cooperation, pricing systems, and the business ecosystem.

27. Supply chain management: every firm is a part of another firm's supply chain and it has its own supply chain. This is a foundation of any business ecosystem.

28. Perfect information: you will never have perfect information. It is too expensive and takes too long to collect it.

29. Productivity: is a measure of outputs (units produced) to the inputs used.

30. The Absolute Competitive Advantage of a firm: is the necessary enabler of a business' success.

31. Lateral thinking and "thinking-outside-the-box": are one and the same. In order for managers to succeed they have to find solutions to a problem that are unique, unusual, and effective.

32. Process Metric: something we can measure that informs us about the performance and capability of a process. There are three key process metrics: inventory, flow rate, and flow time.

33. Inventory: the number of flow units within a process. For example; \$, people, kgs.

34. Flow rate: the rate at which flow units travel through a process. For example; \$ per week, kgs per hour, people per month.

35. Flow time: the time a flow unit spends in the process, from start to finish. Typical units for this measure are minutes, days, weeks, months, and years.

36. Little's Law: the way the three key process metrics are related to each other.

37. Capacity of a single resource: the maximum number of flow units that can be processed by this source per unit of time.

38. Process capacity: the maximum flow rate a process can provide per unit of time. This determines the maximum supply of the process. The process capacity is the smallest capacity of all resources in the process.

39. Demand rate: is the number of flow units that customers want/demand per unit of time.

40. Capacity constrained: the case in which demand exceeds supply and the flow rate is equal to the process capacity.

41. Demand constrained: the case in which process capacity exceeds demand and thus the flow rate is equal to the demand rate.

42. Throughput: a synonym for flow rate. It is the number of flow units flowing through the process per unit time.

43. Utilization: the ratio between the flow rate and the process capacity.

44. Cycle time: the time between completing two consecutive flow units.

45. Lead time: the time between when an order is placed and when it is filled. Process lead time is frequently used as an alternative term for flow time.

46. Bottleneck: a resource with the lowest level of capacity.

47. Bomb: single point of failure. A resource with no capacity.

48. Process: a set of activities that takes a collection of inputs, performs some work or activities with those inputs and yields a set of outputs.

49. Break-even quantity: the volume at which total revenues equal total costs.

50. Break-even analysis: the use of break-even quantity. It can be used to compare processes by finding the volume at which two different processes have equal total costs.

51. Variable cost: the portion of the total cost that varies directly with volume of output.

52. Fixed cost: the portion of the total cost that remains constant regardless of changes in levels of output.

53. Sensitivity analysis: a technique for systematically changing parameters in a model to determine the effects of such changes.

54. Preference matrix: a table that allows the manager to rate an alternative according to several performance criteria.

55. Decision theory: a general approach to decision making when the outcomes associated with alternatives are often in doubt.

56. Payoff table: a table that shows the amount for each alternative if each possible event occurs. A tabular means of analyzing decision alternatives and states of nature.

57. Decision tree: a systematic model of alternatives available to the decision maker, along with the possible consequences. A graphical means of analyzing decision alternatives and states of nature.

58. Steps in analyzing problems with decision trees:

- Define the problem
- Structure and draw a decision tree
- Assign probabilities to the state of nature
- Estimate payoffs for each possible combination of decision alternatives and states of nature
- Solve the problem by computing the EMV for each state-of-nature node

59. Big data: the huge amount of economic, production, and consumer data now being collected in digital form.

60. Maximax: a criterion that finds an alternative that maximizes the maximum outcome.

61. Maximin: a criterion that finds an alternative that maximizes the minimum outcome.

62. Equally likely (Laplace): a criterion that assigns equal probability to each state of nature.

63. EMV: expected monetary value, the expected payout or value of a variable that has different possible states of nature, each with an associated probability.

64. EVPI: expected value of perfect information, the difference between the payoff under perfect information and the payoff under risk.

$EVPI = EVwPI - \text{Max. EMV}$

65. EVwPI: expected value with perfect information, the expected average return if perfect information is available. The sum of best outcomes of consequences multiplied by the probability of the corresponding state of nature).