Understand why organizations need data and information and how they are used?

**Analyzing market trends to find patterns which inform decisions:** Direction – Trends can move in three directions—up, down, and sideways. If you study prices over an extended period, you will be able to see all three types of trends on the same chart. Watch the slope – The slope of a trend shows how much the price should move each day.

**System performance analysis:** Performance analysis is a set of mixed computer-aided tools that evaluate performance of a system at different levels of abstraction, complicating the performance analysis task. Several design patterns are identified at the system level of the performance modeling hierarchy. For example, they can do tests for websites to make sure that even if hundreds of thousands of people access it at once, the servers won’t go down and the lag won’t be too bad. They need to do this to maintain their reputation.

**User monitoring:** User monitoring data is used to determine the actual service-level quality delivered to end-users and to detect errors or slowdowns on web sites. The data may also be used to determine if changes that are propagated to sites have the intended effect or cause errors. For example, if a feature was implemented with the intent to do something, but is being used for something else, they would have to check up on that and possibly change it.

**Target marketing:** Target marketing involves breaking a market into segments and then concentrating your marketing efforts on one or a few key segments consisting of the customers whose needs and desires most closely match your product or service offerings. For example, if your company is based on gardening and selling gardening products, it will be smarter to target the people on the outskirts of the city or country as they are most likely to use them.

**Informed decision making (strategic, tactical and operational):**

* Strategic decision-making is the process of charting a course based on long-term goals and a longer-term vision.
* Tactical decisions relate to the implementation of strategic decisions. They are directed towards developing divisional plans, structuring workflows, establishing distribution channels, acquisition of resources such as men, materials and money.
* Operational decisions are decisions made to manage day-to-day business. Any firm which is into any kind of business is faced with 100 decisions they must take in a day.

An example of informed decisions is someone making the decision to go to a school after looking into it and seeing what the school has to offer.

**Threat/opportunity assessment (break even, predictive models, cost analysis and market trends):** The appearance of new or stronger competitors makes a company look at threats of not reaching a break even, making them more determined to try harder and profit more. The emergence of unique technologies can be used to predict models for new products or even services. Shifts in the size or demographic composition of your market area will make a company look cost friendly with the analysis they are making. Changes in the economy that affect customer buying habits make a company look at new market trends and keep up with them to always make sure they profit and remain relevant.

Bibliography:

<https://smallbusiness.chron.com/strategic-decision-making-23782.html>

<https://www.yourdictionary.com/informed>

<https://www.thebalancesmb.com/target-marketing-2948355#:~:text=Target%20marketing%20involves%20breaking%20a,your%20product%20or%20service%20offerings>.

<https://www.marketing91.com/operational-decisions/>

<https://www.dummies.com/article/business-careers-money/business/strategic-planning/how-to-identify-opportunities-and-threats-in-business-planning-158645>

<https://www.motilaloswal.com/blog-details/How-to-analyse-stock-market-trends/1067>

<https://en.wikipedia.org/wiki/Real_user_monitoring#:~:text=Real%20user%20monitoring%20data%20is,intended%20effect%20or%20cause%20errors>.

<https://link.springer.com/chapter/10.1007/978-3-642-25483-3_33#:~:text=Performance%20analysis%20is%20a%20set,complicating%20the%20performance%20analysis%20task.&text=Several%20design%20patterns%20are%20identified,of%20the%20performance%20modeling%20hierarchy>.

6.1.3:

Human Generated – The data humans give to create information

Artificial intelligence or machine learning – Devices and computers speaking between each other to learn from one another

Sensors – Sensing and tracking based on sensors

Internet of things – Data about history of internet

Transactional data – Monetary data and transactions