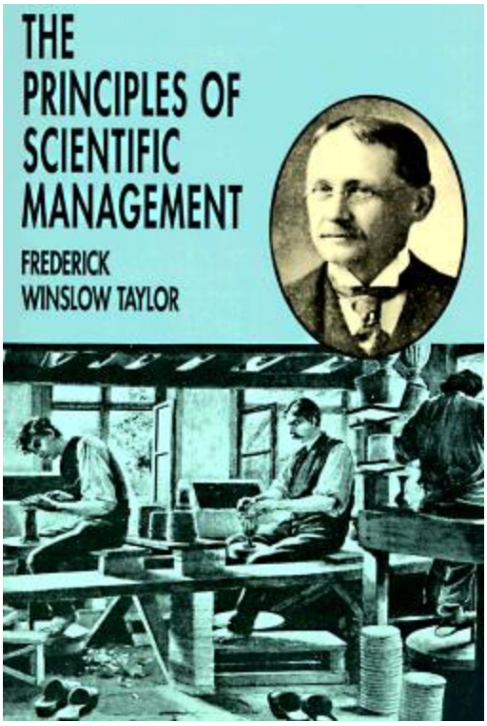
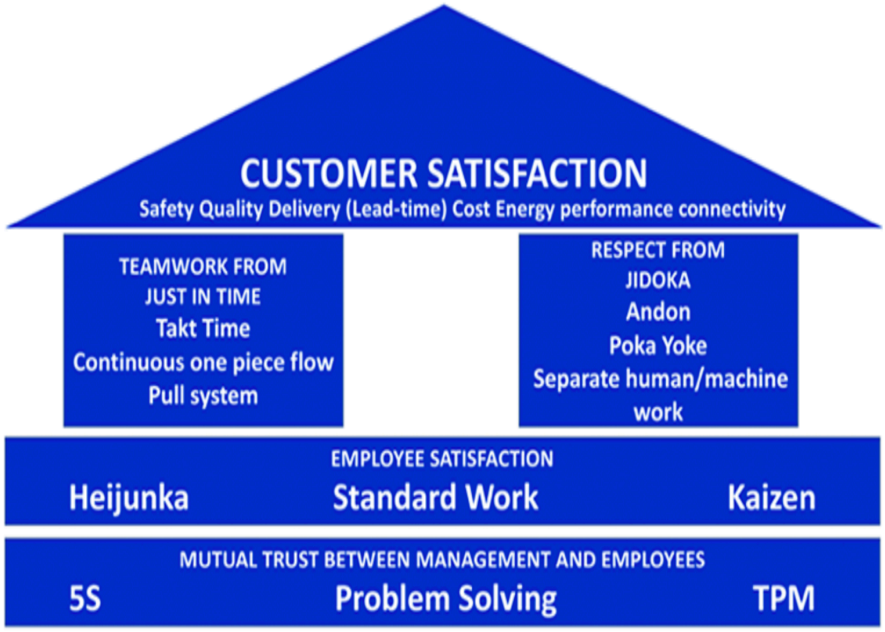
TERM.DNL.SES **Assessment** Thursday 15th March 2022
NAME: (1 hour)

Document 1



Document 3



https://www.lean.org/the-lean-post/articles/tps-the-thinking-people-system/

Document 2

Antonio Gramsci called Fordism "an ultra-modern form of production and of working methods such as is offered by the most advanced American variety, the industry of Henry Ford."
Ford pioneered the modern model of mass production which bears his name, and which is often said to date from the development of the first moving assembly lines, put into operation at Ford's Model T plant at Highland Park, Michigan in 1914.
The assembly line increased labor productivity **tenfold** and permitting stunning price cuts in Ford cars: from $780 in 1910 to $360 in 1914. Fordism thus involved standardizing a product and manufacturing it by mass means at a price so low that the common man could afford to buy it.

http://historytransformationofdesign.weebly.com/uploads/1/1/7/2/11722228/taylorism_and_fordism.pdf

tenfold: decuple

Document 4

While most firms have publicly **eschewed** many of the core principles of Taylorism, there is growing evidence that it is returning. It is returning in a more **nefarious** and digitized form. Sales professionals are automatically tracked based on the number of phone calls they place. They are monitored by IP telephony that is connected with CRM software. Call center workers have their customer calls monitored, mined using natural language processing tools, and optimized to minimize the number of staff members. Some tech firms are **rumored** to have deployed software to silently observe their engineers' productivity and code quality using artificial intelligence. All of this in the name of efficiency, optimization, and productivity. (…)

Artificial intelligence, machine learning, and robotics will undoubtedly and fundamentally alter the labor market and not always for the **betterment** of all workers.

'*The digital reincarnation of scientific management'*, Wagish Bhartiya August 27, 2019. https://www.govloop.com/community/blog/the-digital-reincarnation-of-scientific-management/

eschewed: avoided
nefarious: various
rumored: according to rumor
betterment: improvement

I. Questions on documents

Document 1 4

1. What does the drawing refer to? (1 mark)
2. Why are the principles of management introduced by F.W.Taylor considered as scientific? Present them in more details. (3 marks)

Document 2 5

1. What is meant by 'labor productivity' and how is it measured? (2 marks)
2. Underline and explain the two main innovations introduced by Henry Ford at the beginning of the 20th century. (2 marks)
3. How did Fordism deepen the Scientific management put in place by F.W. Taylor? (1 mark)

Document 3 4

1. What do 'Jidoka' and 'Just in time' consist in? (2 marks)
2. How does 'Toyota Production System, TPS, improve satisfaction from both customers and employees? (2 marks)

Document 4 3

1. Pick out all elements showing that Taylorism is coming back in the digital sector. (1 mark)
2. What are the impacts of Taylorism introduced in the digital sector on the workers' working conditions? (2 marks)

II. Wide perspective

Give and explain two advantages and two disadvantages of the different types of work management presented in the four documents. (4 marks)

TERM.DNL.SES **Assessment** Thursday 15th March 2022
Correction

I. Questions on documents

Document 1

1. What does the drawing refer to? (1 mark)

The drawing refers to the **division of labour**: each worker is **specialized** by doing just one task of the production of the entire product.

2. Why are the principles of management introduced by F.W.Taylor considered as scientific? Present them in more details. (3 marks)

The principles of management introduced by Taylor are considered as scientific because they are based on the best way to do the job. By this way, each worker becomes far more productive.
There are three principles permitting the 'one best way':

- **Timing everything.** Because of **the division of labor** every job was broken up into tasks, each task timed with an eye to efficiency. By doing so, one needs to **determine the best way** to complete the job or task. Then, one must **choose the most appropriate person** for the task while at the same time providing proper compensation. Last, one must be able **to train the person** to do the task efficiently.
- **Specialized workers** who **could do more with less time**.
- Providing **pay incentives** for workers who could be more efficient: piecework or piece rate system.

Document 2

1. What is meant by 'labor productivity' and how is it measured? (2 marks)

Labor productivity refers to the efficiency of worker: he is able to produce more in less / in the time.
The formula of labor productivity = output /a number of workers or the worked hours.

2. Underline and explain the two main innovations introduced by Henry Ford at the beginning of the 20th century.

Moving assembly lines: in the moving assembly, workers did not move down the line, they stood in one place and did not change with another worker. Consequently, workers did not waste time moving around and became more efficient.
Standardizing a product refers to the fact that pieces are interchangeable

3. How did Fordism deepen the Scientific management put in place by F.W. Taylor?

Introducing two main innovations, the moving assembly line and standardized pieces, Fordism deepens the workers' productivity. With unnecessary motion eliminated, workers become **far more productive**

Document 3

1. What do 'Jidoka' and 'Just in time' consist in?

- 'Jidoka' is the principle of the self-monitoring machines
- 'Just in time' means that each process step notifies the previous step of its current needs for materials.

2. How does 'Toyota Production System, TPS, improve satisfaction from both customers and employees?

- TPS permits to satisfy employees thanks to decisions taken in the process of production for which they are involved. They also gain in skills because of the flexibility of the tasks they have to achieve;
- Because of the highest quality vehicles, at lowest possible cost, in a timely manner with the shortest possible lead times, TPS can also fully satisfy customers

Document 4

1. Pick out all elements showing that Taylorism is coming back in the digital sector.

- 'Sales professionals are automatically tracked' and 'They are monitored by IP telephony': according to Taylor 's principles, each task should be monitored and timed in order to carry out productivity gains;
- 'Optimized to minimize the number of staff members' in order to reduce the cost of production and make more profit;
- 'Efficiency, optimization, and productivity' are the goals of the scientific method of management, the well-known 'one best way' proposed by Taylor.
-

2. What are the impacts of Taylorism introduced in the digital sector on the workers' working conditions?

- Timing each task and monitoring workers continually can increase the workers' stress.
- Through the 'one best way' proposed by Taylor, workers' initiative tends to be destroyed and the workers'skills become useless.

III. Wide perspective

Give and explain two advantages and two disadvantages of the different types of work management presented in the four documents.

	ADVANTAGES	DISADVANTAGES
TAYLORISM / FORDISM	- **Increasing the efficiency of the process of production: t**he principle of specialization adopted under scientific management ensures higher productivity derived from the division of labor; **- Gains to producers: i**ncreased productivity and large-scale production leads to more turnovers and enhanced profits for the producer; - **Increased Wages:** Scientific management aims to increase wages for efficient workers → pay incentive; - **Gains to Consumers:** Paying lower prices and attaining higher living standards.	- **For the employers:** It is **a costly affair, especially for small firms.** Scientific Management involves huge expenditure that small firms cannot afford to adopt. - **For employees**: An excessive job standardization tends to destroy the individual workers' initiative and makes their work monotonous.
LEAN MANAGEMENT	**- Less waste: c**ontinually refining the workflow means productivity gains; - **Increased Quality of the product by** decreasing the number of defects and reworks in products; - **Better Employee motivation:** in regular communication with their managers about their work and their process, employees could feel they are empowered to make better decisions; - **A smarter way of working**. Using the pull system means the team will only work on tasks when there's demand.	- **High Implementation Cost**: especially for companies who are not prepared for the increased expenses of bringing in new equipment and training programs. - **Lack of time:** lean requires some planning and time upfront. It takes time to discuss the work that's been completed, what needs to be done, and any problems. -Teams will need to **work independently** without too much direction, which could cause stress for the employees; - With **low amounts of stock** any disruption of inventory processes can derail the company.

TERM.DNL.SES **Assessment** Thursday 15th March 2022 **PROF**
Correction

I. Questions on documents

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More than a year ago, the New York Times reported that Amazon had successfully received two patents for wearable technology. Instead of being used for consumer tech, however, these wearables were meant to be worn by Amazon warehouse workers. Amazon patented the dual ability to track a worker's physical position including hand location, as well as send targeted noises and vibrations to the device – also known as haptic feedback.

While it is not clear if and how exactly Amazon plans to deploy this technology, the potential is frightening. Today, most Amazon warehouses rely on "cobotics", or the collaboration of robotics and human interaction. (...)

A Brief History of Scientific Management

To fully understand the basis of this type of technology, we must first have a brief history lesson. 100+ years ago, a new model for how to manage work emerged. With the advent of the assembly line and mass migration towards factory jobs, managers sought an organizing and operating framework to guide them. Enter Frederick Winslow Taylor and his philosophy of scientific management.
In the 100+ years since its conception, the principles of scientific management have unlocked tremendous productivity gains. It has made most consumer products far, far cheaper to buy and cultivated an economy (for the most part) that is far more predictable. Indeed, the rise of automation (and even outsourcing) can be linked largely to the broad embrace of scientific management.

Thanks to a devotion towards measurement and optimization, we (as managers) understood the limits of human capability. We turned to robots to execute repetitive tasks faster, with less error, and at a lower cost. Along the way, however, something strange happened. The ongoing shift away from blue-collar work towards white-collar jobs that Taylorism catalyzed rendered Taylorism increasingly anachronistic – at least in the developed world. (...)