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Investigative Report Outline

Report: **Describe the cause and effects of using robots in the workplace**

2. Introduction

General topic of research
- *describe topic of investigation*
- *include definition of key terms if necessary*

Aim of the report
- *describe report goal*

Brief background of issue
- *descriptive details of topic, e.g., when, where, how, it started*

Importance to businesses
- *briefly discuss potential areas of impact i.e. on costs, efficiency, workers, etc.*

Sequence
- *list paragraph topics using bullets*

- Topic: Businesses using robotic technology
- Aim: Look into robot use: more + or - for companies?
- 1760-1830: Industrial Revolution (Brinkley, 2003)
  - machines replaced people – no skilled craftspeople needed
  - identical items – low cost – quickly
- 20th century: assembly lines (Brinkley, 2003)
  - Olds – ^^^ output 500% / Ford – moving platforms on conveyor
  - 1 car every 90 min.
- 1960's: early robots (Brinkley, 2003)
  - GM: robotic arm on assembly line
  - Stanford Arm: move in repeated pattern
- Impact on Cost? Revenue? Output? Quality? Workers?
- Reasons for using robots
- + effects
- - effects

3. Write main idea: Reasons companies ➡ robots

Main idea
Description of issue causes including:
- *historical/current reasons*
- *use of supporting data (quantitative)*
- *use of supporting examples (qualitative)*

- Financial savings (Pierce, 2013)
  - Buying robot < yearly employee salary
    - Baxter: only $22,000 and $3/hr operation
  - No health care/benefits needed
  - Manufacture at home = no import cost
- Work capabilities (Pierce, 2013)
  - 24 hr work without rest/injury
  - Lift heavy items
- Labor shortages
  - Hospitals lack staff (Kerr, 2015)
  - Few low skilled workers (Wallach & Allen, 2008)

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4. Write main idea: Benefits of using robots

Main idea
Description of positive or negative effects (choose one) including:
- *use of supporting data (quantitative)*
- *use of supporting examples (qualitative)*

- Can work ^^^ effectively and efficiently(Frey & Osbourne, 2017)
  - Doesn't make mistakes i.e. human pilot vs. autopilot
  - Has precision & control i.e. computer chip
  - Can do human tasks i.e. sophisticated UBR-1
    - Humans - focus on more intellectual work
    - Older people - continue working
  - Can do impossible tasks i.e. search all web pages
- Can help in specialized fields
  - Medical (Kerr, 2015)
    - Perform surgery (already helping)
    - Help with check-ups
    - Deliver medicine/meals
    - Communication/movement i.e. Hawking

5. Write main idea: Negatives of using robots

Main idea
Description of positive or negative effects (choose the one not described in Part 4) including:
- *use of supporting data (quantitative)*
- *use of supporting examples (qualitative)*

- Will cause unemployment
  - 47% of US jobs within 20 years (Frey & Osborne, 2017)
  - 70% jobs by 2100 (Pierce, 2013)
    - Low skilled jobs = loading trucks, pick fruits, clean, drive trucks (Pierce, 2013)
    - Mid-skilled jobs = accountants, office workers (Wallach & Allen, 2008)
- Lack human emotions
  - No morals i.e. no problem killing (drones) (Wallach & Allen, 2008)
  - No compassion i.e. won't care about patients (Kerr, 2015)
    - Patients poss. won't trust to do surgery, give meds

1. Executive Summary (as cover page)

State the aim

- Investigate using robots – more positives or negs. for companies?

Summarise main ideas
- *use bullets for each main point and include key data*

- Reasons of use:
  - Financially beneficial ($22,000 and $3/hr. operation) with no benefits, solves labor shortage, 24/hr. precise work
- Positives:
  - Mistakes, has specialized uses (medical)
- Negatives:
  - Unemployment (up to 70%), & no human emotions → mistrust

Recommendations
- *Make a recommendation to a UAE company based on at least one specific cause or effect from the readings*

1. Use robots > importing low-skilled laborers – saves company $ & resources, [DOWN] worker exploitation
2. Use robots if considering manufacturing: no mistakes, no down-time = high, perfect output
3. Don't use robots for customer-facing jobs – may lead to company mistrust