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Operation Management

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**1. Services versus manufacturing: which matters more for growth and jobs?**

**Answer:**

Services and manufacturing both have its own advantages,

Manufacturing, key advantages include: the possibility of scale economies which drive down production costs; the generally negative correlation between manufactured goods prices and demand; and the possibility to export the sector’s output to richer developed countries, thereby expanding the output base and counteracting the effects of any labor-saving productivity gains.

Services, the conventional wisdom perceives the sector to have limited potential to export or achieve economies of scale, and thus unable to benefit from expanding global trade (haircuts or restaurant meals, for example, can only be consumed locally). Furthermore, consumption of more services was seen linked to a state of affluence rather than to technology-driven price declines.   A characteristic that, in the absence of a global trade outlet, limited the scope of services growth through domestic demand.

The traditional services—trade, hotels, restaurants and public administration—remain largely characterized by the constraints above. Modern services, however, can engage in cross-border trade as well as (in some cases) benefit from scale economies and cost-reducing technological advances. Modern services include business processes which can be outsourced (e.g. insurance claims, transcribing medical records, call centers), as well as transport, logistics and communication services.

The services sector plays an important role in advanced economies, not only because of its high and growing share in total GDP of more than 70% in most advanced economies or its role for employment creation, but also as an important source of inputs in manufacturing. Of the services sectors, business services play a particularly important role as inputs in production, e.g. in terms of consultancy activities, design activities, marketing, cleaning, etc. As can be seen, business services are heterogeneous and matter to different degrees in the manufacturing process in both upstream and downstream activities along the manufacturing value chain.

The one can’t say that its only Services or Manufacturing that matters more for growth and jobs but the both are interrelated. Manufacturing firms not only use various services as important inputs in their production process in a broad sense but also bundle their products and provide services along with their products. And service activities are also carried out within manufacturing firms, which may be partly outsourced or offshored (e.g. business function offshoring). The other way round, also service industries use the output of manufacturing industries which allows them to provide their activities more. Hence, given strong inter-sectoral linkages and interrelationships, changes or improvements in the services sectors and the conditions impacting on the interaction of services and industry, both within and across countries ,are expected to have important effects on the performance of the manufacturing sector.

Some studies shows that services sector has more impact on growth and job creation than manufacturing sector, For example

The World Bank [MENA Economic Development and Prospects (EDP) report](http://siteresources.worldbank.org/INTMENA/Resources/World_Bank_MENA_Economic_Developments_Prospects_Sept2011.pdf#zoom=100) of Sept 2011 finds that **MENA’s** **growth and job creation profile** is characterized as follows:

* The **services sector** has been an important source of value added growth and job creation in MENA countries during the latter half of the 2000s, irrespective of whether the country was an oil exporter or importer.
* **Manufacturing** is starting to make sizable contributions to value added growth in some MENA countries (Jordan, Egypt, Tunisia, Iran and Qatar), but made an impact on job creation in a few countries only (Algeria and Qatar).

**2. How one increases the productivity in manual assembly line?**

**Answer:**

Manual assembly lines, or, more generally, manual flow lines, are used in high-production situations where the work to be performed can be divided into small tasks (called work elements) and the tasks assigned to the workstations on the line. One of the key advantages of using manual assembly lines is specialization of labor. By giving each worker a limited set of tasks to do repeatedly, the worker becomes a specialist in those tasks and is able to perform them more quickly and more consistently.

Flexibility and agility are the key factors in developing efficient and competitive production systems. For products involving light manufacturing and assembly, this level of flexibility can be easily achieved through the use of manual assembly systems. Manual assembly lines are most common and conventional and still provide an attractive and sufficient means production for products that require fewer production steps.

Below are six ways to increase productivity at your manufacturing facility.

**1. Review Your Existing Workflow**

You won’t know what can be changed until you know how everything works now. Three areas contain critical information to help you identify needed changes.

1. Do you have people with the right skills in the right places?
2. When was the last time you mapped your processes? Have you used value stream mapping to assess process improvement projects?
3. Is all your equipment in good repair? Is the technology you rely on optimal for your current needs? How easy is it to make changes in production?

Before you make any changes, understand how everything works now.

**2. Update Processes**

Once you have reviewed and mapped your existing workflow, start identifying areas where processes could use some updating or changing. Processes that have been in place for a long time may be riddled with workarounds as new equipment was added or production methods changed.

**3. Commit to Scheduled Maintenance**

The fastest way to slow things down is by ignoring regular maintenance. Maintenance can be scheduled; breakage always comes at the worst possible time. Train all operators in regular maintenance and troubleshooting procedures. Schedule preventive maintenance at regular intervals. Identify the best time for maintenance by using information from the floor and your workflow processes.

**4. Train and Educate Employees**

Employee education and training is an ongoing process. In some industries, certain types of training are mandatory, such as daily safety training for all personnel using safety gear. Employee education is also an excellent retention tactic; new employees take time to become proficient, causing a slowdown in production. Keep accurate records of training and schedule refreshers if needed. Offer educational opportunities for employees who wish to advance or obtain new skills.

**5. Organize the Workspace**

Reducing movement and clutter saves time.

Reduce movement for optimal task efficiency.

Create the optimal layout of tools and materials for the job or process.

Remove unneeded or unused tools and materials from the workspace.

Create organized storage to reduce time to find materials, documents, and equipment.

Layout the manufacturing floor to maximize efficiency.

If a product must be moved from one machine to another, is there a way to shorten the distance, orient the product, or move the product more quickly yet safely to the next step in the process?

Excess movement is a sign of poor organization and can cost you plenty in production time. Consider techniques such as Kanban (just-in-time production) to reduce delays and increase efficiency.

**6. Maintain Optimal Inventory**

If you have too much inventory, you need a place to store it and hope you will use it all. If you have too little, you run the risk of a work stoppage as you wait for more inventory. Optimizing inventory is especially important if you are following lean manufacturing principles such as the previously mentioned Kanban technique.

Keep track of rejection rates, declining quality, and late deliveries so you can rectify them with the vendor or find a new one. If you know one of your vendors is undergoing an extensive change such as a sale to another company, request assurances and guarantees that your deliveries will continue as before.

Increased productivity should be driven by deliberate change rather than rapid “fixes” that may help in the short term but cause long-term problems.