

TOWARDS AN OPERATIONAL DEFINITION
OF SERVICES

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TOWARDS AN OPERATIONAL DEFINITION OF SERVICES

INTRODUCTION

The fact that production management and business management in general are interested in services is not surprising for a field which has recently found a new equilibrium. The services area arouses fresh interest because of productivity and quality requirements which are already set for production systems. But that operations management should claim to be capable of making service management more comprehensible may seem presumptuous at first glance. This is all the more true since one cannot see what a discipline which is considered materialist and "quantitative" can contribute to "immaterial" services. Obviously, certain banks and data collection centres are organised in such a way that they might be described as factories within the service sector.

But we would like to go far beyond these vague analogies. To do so, it is essential to start with a definition of services which is both rigorous and pertinent to the management of a service enterprise. We do not claim that the definition we propose in the first part of this article is original: certain authors have mentioned it before now* but they have not isolated it nor sought to develop it systematically in order to turn it into an operational tool. In the second part of this article we will show how this definition applies to business management. In the third part we will show how it affects the organisation of a service.

James Teboul (with V Malleret) 1986

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I. TOWARDS A DEFINITION OF SERVICES

I. EXISTING DEFINITIONS

Service = Tertiary Sector?

Service industries are a heterogeneous category, ill-defined by economists. They are a tertiary sector, which nowadays often encapsulates a new sector geared more towards grey matter. One could say, a contrario, that services differ from agricultural, mining and industrial sectors, extraction or transformation sectors. But this classification is not really satisfying because services can be found in the transformation sectors (tertiarisation of industry) and "industrial" transformation processes are to be found in the services.

However, let us note in passing that in 1980 in the U.S.A., 2/3 of jobs were in the tertiary sector (and this did not include service jobs in the other sectors). In the European Community, this figure was 52% in 1977. In appendices 1 and 2 we show the comparative evolution of employment in industry and in services over the past 20 years. These figures underline the labour intensive aspect of services and the relatively low capital investment per employee compared with industry or agriculture: data processing and office automation may alter this tendency.

Brownig and Singelmann's Classification?

Let us try then to make an inventory of services so as to grasp their range more adequately before attempting to define them.

In 1978, Brownig and Singelmann proposed dividing the services into 4 categories (outside of the extraction and transformation sectors). (See reference (1))

Distribution services :

Transport and Storage
Communication
Business

Support services:

Banking and Financial Establishments
Insurance
Real Estate (Property business)
Engineering and Architecture
Legal Services (lawyers)
Business Services (Consultants) etc.

Social services:

Treatment: Medical/Health
Hospital
Education
Religion
Protection: Administration
Police, Army, Law
"Social services"

Personnel Services:

Domestic staff
Hotel and Restaurant staff
Repair services
Cleaning services
Beauty salons
Sport, leisure
etc.

This classification is as valid as any other. But how useful is it? While this angle of approach clarifies our notion of what a service is, it is not wholly satisfactory in other ways. This is due possibly to the fact that one cannot have a satisfactory typology until the objective is clear.

Service = Non material commodity?

A service is often described as the provision of a non material commodity: a consultation, treatment, a surgical operation, assistance etc. But we see how often the provision of material goods is mixed in with the provision of a service: for instance, a good meal combines both the provision of a series of prepared dishes and services such as reception or welcome service, creation of pleasant atmosphere, individual "service" or attention, and an overall sense of pleasure or enjoyment. On the other hand, the sale of a commodity is very often

accompanied by the sale of a service: the sale of computer hardware is often linked to the sale of software and after-sales service. Goods and services do not constitute, therefore, two monolithic categories, but rather each of them includes some of the characteristic features of the other. Following on this idea, we could classify activities according to their degree of material content, i.e., according to the relative quantity of goods or services they provide. But this does not solve the real problem, which is to define clearly what is meant by commodity and what is meant by service.

Service = qualified work-force?

The level of qualification of the work-force does not appear to be a relevant measuring stick either, because there are services with highly qualified staff (consultants ...) and services whose staff need very few qualifications (cleaning firms).

Service = Availability? Flexibility? Specificity?

Let us come back then to ideas which are closer to our experience, closer to the ideas each one of us has as to what constitutes a service. Let us look at other terms which are usually used to describe services. A service can be defined by its availability, the way in which it satisfies a demand. It is provided on a regular basis and the response period should be as short as possible". This availability is undoubtedly an important notion, but it is not limited to the services. It is found in the traditional production system where the purchaser can request that an industrial item be provided immediately (by drawing from stock, for example). Another characteristic feature of services is their flexibility, i.e. the capacity of the production tool to provide a varied range of services. Nowadays, however, we are witnessing a considerable effort being made by the industrial sector, for example, the car industry, to provide a personalised article, in a short space of time and at mass-production prices.

Should we therefore fall back on the notion of the specificity of demand, of the personalised quality of the service furnished? We would then have to admit that a firm which manufactures machine tools exactly to meet its customers requirements can be more accurately described as a service than can a large insurance company which deals with millions of standard contracts.

2. PROPOSED DEFINITION OF A SERVICE

For our part we are interested only in a definition which is economic and capable of explaining things at operational level: a service exists when production and consumption are simultaneous.

This coincidence or simultaneity places the consumer within the production process from the outset. The customer plays a role in the development of the service, becomes involved to the degree that he consumes it. There is osmosis, interpenetration, contact at a particular moment between the customer and the production system. This active interface of customer/production system is the "hot" sector, or strong contact area which is a characteristic feature of every service. This explains why production managers take as much interest in service management as do marketing people. Within a service, the consumer and the production tool meet.

Several remarks immediately spring to mind about this definition:

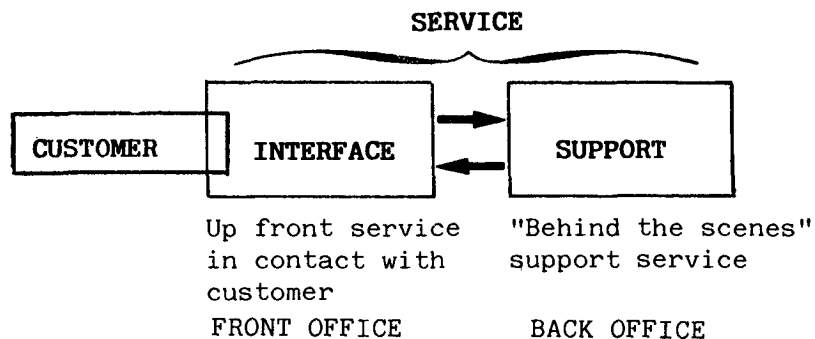
1) This definition is not new. It has been quoted in passing by numerous authors quoted in the bibliography, e.g. Sasser. The originality of our contribution lies in the attempt to isolate it and show its explanatory force.

2) Within a "service", there is always an important sector in which considerable interaction with the customer occurs: this is called the interface. We will see how sensitive this sector is and how difficult it is to manage.

3) This "hot" sector of customer contact can give way either upwards or downwards to a "cold" sector called support; which is cut off from the customer and much closer to the situation that exists in a classical production system. This sector prepares and supports the interface.

4) Interaction between customer and interface can involve waiting periods during which the support service processes the customer's demand.

Here then is the basic diagram:



Examples:

1) The bank teller provides certain services at the counter which the customer consumes there and then (cashing of cheque, deposit transactions, information). This is the interactive sector. All transactions, however, are not completed during customer-teller contact. The customer's request is often transformed into a paper, a document - an intermediary article which will be passed on to the support services "behind the scenes" both in the figurative and real sense. There the information will be processed in the usual production management way, with work stations and intermediary storing.

2) In contrast to the previous example, the despatch by post of a social insurance file by an insured person and the processing of this file by the Social Security Centre are not concomitant. In the latter case, the interactive part is minimal. The customer has been replaced by a file which can be stored and processed by a normal production chain.

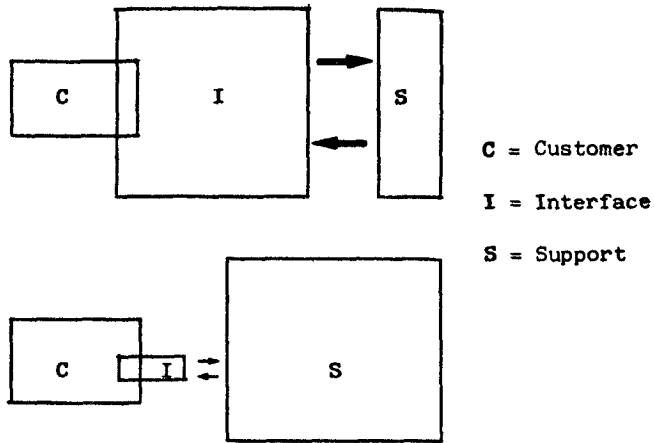
3) A relatively simple activity such as a blood test can be divided up into a series of operations which can belong either to the interactive sector or the support sector:

- taking the blood sample (interactive)
- analysing and writing up the results (support)
- communicating the results which is interactive if they are given directly into the customer's hands, but support if they are sent through the post.

4) During a flight from Paris to New York, the passenger is in the plane; in the transport producing instrument. He is consuming travel at the same time that the company is producing it. A gap in the time between production and consumption cannot even be imagined: during the journey, the passenger is directly involved in the production process. Furthermore, both in the plane and the airport, the passenger is unaware of the existence of support systems which take over from the active systems: luggage, maintenance, air traffic-control, preparation of meals, etc.

From activity sector to operations sector

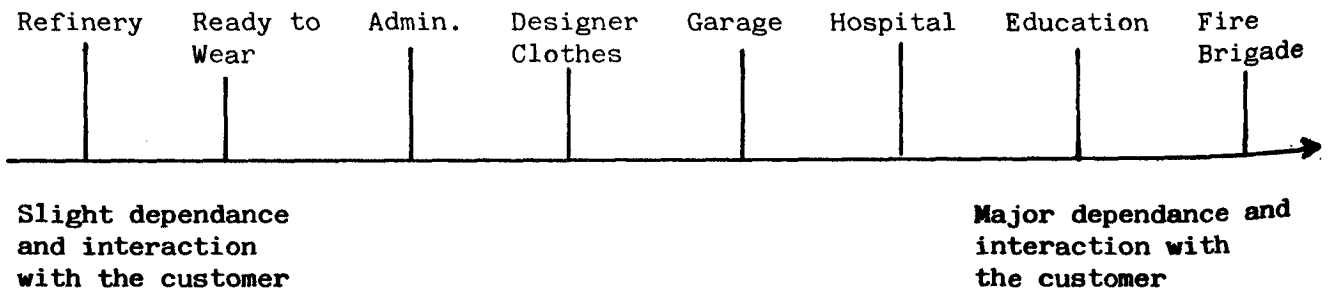
Looking at these 4 examples it is evident that the interactive or "pure service" part can vary considerably and all kinds of examples may be found between the two extremes which follow:



We should therefore stop trying to make general statements about the organisation or activity sector where the distinction between service and production is unclear and turn to the operations level where the definition we put forward above gives scope for a clearer typology.

We can say then that every activity is partly "service" and partly production. It is the proportionate importance of these two blocks within an activity which makes the service aspect of the activity more or less marked.

We can illustrate our point by a somewhat arbitrary classification based on the degree of service content in the following areas:



Two corollaries to our definition:

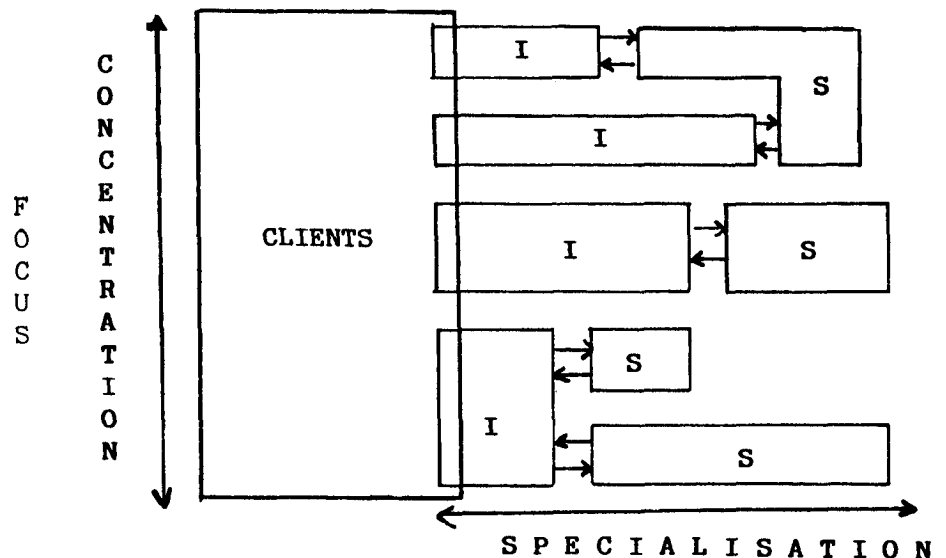
To make the point of our definition clearer, let us mention two consequences which directly ensue from it(at least at interface level).

1) A service cannot be stored. It is volatile. There is direct contact between the customer's demand and the production system. A toy manufacturer, in the course of the year, can manufacture and store toys which he will sell in October-November. A hairdresser cannot store his work in advance: the fact that he had nothing to do between 9.00h and 11.00.h is of no avail to him when a large number of customers arrive between 11.00.h. and 13.00.h. All he can do is store the customers in a waiting line.

2) The production process and the product cannot be separated within the interactive sector of the service. There is direct transference. This is why services are described as intangible or immaterial. We prefer the expression that they do not exist independently of their process. When the process is completed, the service has taken place. The manner in which a service is obtained is as important for defining it as is the result obtained. For example, it is very difficult to do an independent or objective check on the quality of a service provided because measurement or evaluation of the production process, i.e. the way in which the service is furnished, is interfered with by contact with the customer.

Coming back to organisation

Service organisation is really much more complex than the simple linear diagram that we have used. In fact a service company provides different kinds of services; let us imagine a diagram as follows:



I = Interface
S = Support

In this diagram we have used two dimensions. The vertical dimension represents the various services offered or inversely their concentration or focus. The interactive service can offer either a precise but narrow range of services such as a special counter for a particular transaction (e.g. the express check out counter in a supermarket) or a very wide range of services. The distribution of different operations between different counters in a post-office is a good example of the decisions that have to be made regarding concentrations. The horizontal dimension represents specialisation, the relative proportions of interface and support within the total processing of a customer's demand and the eventual breakdown of this process into a series of elementary activities.

SUMMARY

In conclusion we can say that within an organisation which provides services (or goods) two production systems really co-exist and each system has different objectives:

- The first system, which is directed at the customer deals with problems of flexibility, quality of design and ability to satisfy demand.
- The second system, which is directed towards the interface sector is separate or at least can be cut off or separated from the customer. It is geared more towards productivity, towards ensuring uniformity of quality and meeting delivery dates.

Using these two systems as a spring-board, we will now tackle the practical questions which are linked to the organisation and management of service activities.

II. SOME OF THE CONSEQUENCES OF OUR DEFINITION FOR SERVICE MANAGEMENT OPERATIONS

In the following section it is assumed that the "service" part of the "product" furnished is sufficiently important to justify a special study.

1. THE CONCEPTION OF SERVICE

The conception is global

As in the conception of an industrial product, the starting point in this instance is the user's requirements and the goal is a definition of the service rendered rather than a definition of the real standard of quality of the service: what matters is the customer's perception of quality rather than the "objective" level of quality. For instance, the customers of an airline company were under the impression that flights were systematically delayed, whereas in fact the planes left strictly on time. On analysing the problem, it emerged that this impression was due to an excessive waiting period in the plane before take-off at the scheduled time. Definition of a service is therefore more difficult to settle because it has to include both the "product" and the process by which it is obtained. On the one hand, certain features are intangible, on the other hand, the variation in requirements can be considerable or difficult to foresee.

In order to understand clearly what a particular service entails so as to be able to reproduce and manage it, it is useful to draw up a "schedule of conditions" (or more accurately a "schedule of requirements to be satisfied"), which also specifies the mode by which the service is obtained. For example, the definition of services offered by a MacDonald restaurant is quite specific not only about the quality of the product and the physical process involved (content, shape, size, origin of ingredients, mode of cooking) but also about the standards of explicit service (lay out of premises, response or waiting period, wrapping, production process, recipe, freshness) and standards or implicit service (atmosphere of cleanliness, impression of abundance - portions overflowing their plastic containers, dealings with serving staff, etc).

A discrepancy between the service required and the service provided is not always to the customer's disadvantage. Just as there are oversophisticated industrial products, in the same way the quality of some services is higher than is required. For example, the emergency sections of Parisian hospitals can deal with a sprain in 2 or 3 hours, 24 hours out of 24 whereas the same service would normally entail visits to the doctor, the radiologist and the kinesiitherapist. An "over-service" of this kind which does not have a filtering procedure usually ends up by becoming so overloaded that the quality of the service given to the people for whom it was originally designed deteriorates.

Value analysis

All the theories about value analysis of industrial products could be applied here. We are attempting to analyse the procedures required in order to satisfy a need or demand and the systems that have been developed in order to cope with these procedures. How efficient are these systems and what do they cost? Would it be possible to carry out a particular process or function in a different way, more economically? What is the value or cost of a particular activity when compared with the "service given", the process or function covered? Caution is necessary, however, because the mode of production employed is highly relevant to our analysis.

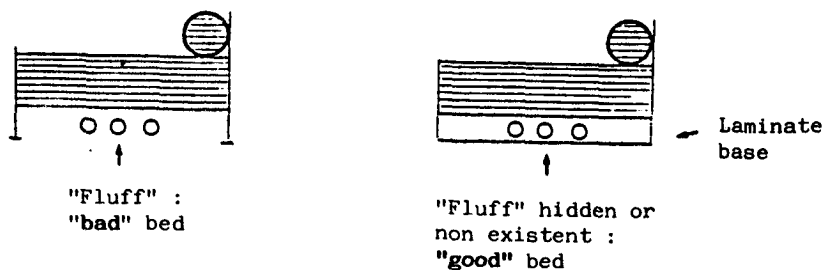
Standardisation

The advantages of a certain standardisation are clear, (for instance in the case of holiday tour catalogues).

The concept of equipment or plant

A service which basically sells production capacity should plan its equipment or plant very carefully. This planning will influence the efficiency of the system in the future. If the equipment is not efficiently planned, changes will prove very costly.

In this regard, one could quote the case of the hotel chain which installed oval mirrors in the bath rooms (easier to clean than rectangular ones because they do not have corners) and put the beds on fixed bases rather than on legs so as not to have to vacuum clean underneath". Naturally we suppose that the shape of the mirrors and the beds did not have an adverse effect on the customer's aesthetic sense.



2. THE SERVICE'S IMAGE

Sale of a service includes sale of the process by which it is obtained. Consequently, in order to make it easier to grasp the concept to be diffused, commercialisation is based on the characteristic features of both the service and the process. Earl Sasser (2), and later Jean Paul Flipo (3) mention the case of the Hertz company which divides up the renting of a car into 54 distinct operations (handing over the keys, conversation, use of a radio ...) and they set out these 54 operations in their publicity information.

3. BALANCING WORKLOAD AND CAPACITY

The fundamental importance of balancing workload and capacity is grasped when one realises that a service cannot be stored and that it must be organised in such a way as to avoid excessive waiting periods. Because one cannot be sure of the size of demand and because one cannot cope with this uncertainty by storage, one deals with it through organisation of capacity. A wide range of solutions could be envisaged. Since we cannot make a complete list, we will merely indicate a few of them:

Adequate capacity

The first solution is to gauge the size of production capacity during peak periods. This is the task that is carried out in sorting postal offices - a task which it would be impossible to imagine doing for the August exodus on the Autoroute du Sud (the main French Motorway).

Temporary increase in capacity and adjustment to demand

Production capacity can be increased temporarily by any one of the following means: additional hours, temporary staff, trainees, old machines. Note in passing how important it is to plan the workschedule in the interface sector because of specific timing problems.

Staggering Demand

Other solutions would be to try to shift demand from peak periods towards the slack periods or at least to try to make it as uniform as possible:

- By organising tours
- By a reservation system, organising appointments
- By offering preferential rates

Flexible capacity

Depending on the availability of staff and flexible premises certain tasks can be postponed in favour of others that are of more pressing importance.

Supplementary demands

A production capacity which exceeds demand at certain times can be made profitable:

- By creating supplementary services (tennis coaching in ski resorts during the summer season ...)
- By sharing the capacity with other users (ground hostesses who could wear Air France or Lufthansa uniforms alternately).

"Storing" the consumer

When capacity is unable to cope with demand, the customer has to wait. One might say that he is "stored" in a waiting line. Obviously the quality of the service is then directly linked to the size of the waiting line i.e. to the number of people being "stored". Air line companies for instance have to choose between large planes which travel infrequently and smaller planes that travel more frequently.

To prevent the customer finding the time long or becoming bored, one can:

- divert his attention. The most striking example of this method is the large hotel where customers complained about having to wait for the elevator to arrive. Since it was not possible to increase the existing number of elevators, mirrors were placed in the entrance lobbies and no further complaints were registered (example quoted by Earl Sasser (2)).
- offer him supplementary services such as a bar in a restaurant.

Transfer of activities towards support sector.

Finally, through detailed planning of workschedule, it is important to move as many tasks as possible into the support sector - the distinction between support and interface sectors being applicable first of all to the time aspect of the problem. For example, the normal lunch time peak periods in cafes and restaurants would seem to present insuperable problems to most management staff. But if you look closely at what goes on in these same cafes and restaurants at 11.00.h and at 15.00.h, you will notice that all the tasks that are not directly linked to the customer are brought forward : by midday the sandwiches have been buttered, the ham has been cut into slices and the aperitif bottles have been filled... The same thing can be seen if you analyse the way a computer supplier organises his maintenance service. Demands caused by computer breakdowns are seasonal (daily and weekly). At peak time all the maintenance

crews must be available to deal with this demand. This is the corrective service. Conversely, during the slack periods preventive maintenance can be carried on - inspection tours organised and routine business dealt with.

In the same way, counter staff can ask a customer to fill in a form instead of dealing directly with his problem. This questionnaire will then be stored and passed on to the support sector. This is an example of physical postponement.

4. PRODUCTION PROCESSES

Within the support system we can expect to find the usual production processes:

- Unit production in the form of a project
- the work-shop process i.e. production in batches
- mass production, i.e. a continuous process.

The restaurant business is an example which encapsulates all the various systems : organisation of a banquet by a caterer, the kitchen in a traditional restaurant which is divided into work areas according to the different activities being carried on, production in batches in a canteen, mass production in a MacDonalld's, continuous production of deep-frozen food in a factory.

But what are the specific modes of production that occur at the interface? Basically you find the unit mode in the form of high intensity work stations where the specialists converge on the customer (e.g. a surgical operation carried out in a hospital operating theatre) and the jobshop mode. In this latter case the interface sector is divided into specialised areas according to function e.g. a counter, a desk, a shelf in a supermarket etc. and the customer goes from one work station to the next. In the interface sector, one rarely finds a production chain which allows customers to go from one workstation to the next in sequence and the difficulties involved in trying to balance such a system can easily be imagined.

5. FILTERING AT ENTRY POINT AND SCHEDULING

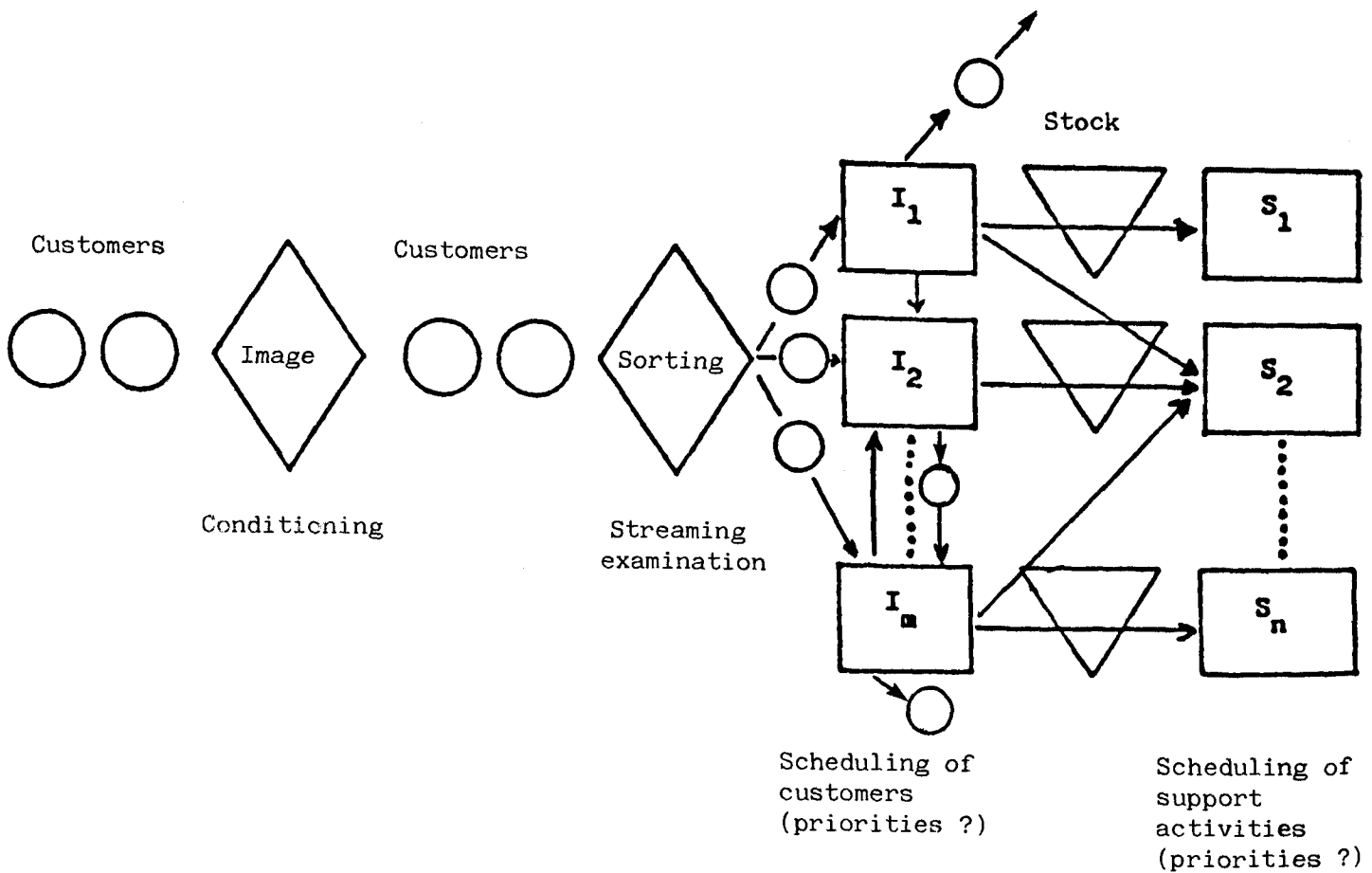
At the entrance to the interface sector customers are like primary "raw" material, that is they are as yet unsorted and unfiltered. So the task is to direct these customers towards the interface areas which correspond to their needs either by telling them where to go, i.e. defining their route via centralised scheduling or by allowing them to choose their own scheduling according to the size of queues and/or through signposting.

A clear image of how the service functions conditions the customer and enables him to be directed beforehand. All sorts of filters

are then imaginable - from the doctor's secretary, School or University examinations, the receptionist who directs customers to different counters, the head-waiter in a restaurant - from those down to the telephone switchboard with one number which gives standard answers before calling on different types of specialists (e.g. in a maintenance service).

The filtering exercise carried out thus at entry point and the subsequent scheduling of customers is as important for the proper use of existing capacity as it is for the quality of the service provided. It is often neglected, nevertheless or not taken sufficiently into account.

Next we come to the scheduling of activities within the support sector



6. QUALITY CONTROL

Poor quality = a dissatisfied customer

Since the service cannot be stored, it is no longer possible to change the quality and correct certain flaws once it has been provided : an unsatisfactory meal will certainly upset a customer even if the restaurant proprietor refunds a percentage of the meal on hearing his customer's complaint. One might say that 'to produce poor quality is to produce a dissatisfied customer'. The cost of quality deficiency is very high even within the public sector where the competition is quite unlike that in the private sector.

It is important to differentiate between the interface and the support areas. In the latter case the classic methods of quality control and internal filtering can be used because of the fact that a support system can be stored. Conversely the following features can be distinguished within the interface sector:

a) The quality of the service as perceived by the customer will differ from the quality he expects (which is defined by traditional marketing techniques or external influences) depending not only on the "technical quality" of the service furnished (the what) but depending equally on the "functional quality" (the how) (27).

b) Quality control can only be carried out

- by customers' assessment once the service has been provided (a survey is often necessary to discover this assessment as a dissatisfied customer will not always make himself known).

- by the degree to which standards i.e. orders and operational modes within the process itself, are respected. Thus a certain oil temperature and cooking time are necessary for a certain quality of french fries.

One then comes up against two problems:

. The bias inbuilt in the assessment (how can a receptionist's courtesy be evaluated other than by asking the customer afterwards?) where the method used has an effect upon the result obtained.

. The need to continually keep an eye on the process (unless the operator can be trusted) or at least to develop systematic checks. This requires the mobilisation of large numbers of staff at peak periods.

c) At the level of execution, the same staff can both 'produce and interact with the customer. Thus they (the staff) have to be responsible for two different systems of rationalisation - the productivity rationale (produce quickly and cheaply) and the quality rationale (well done and with variety). Depending on his temperament, the number of orders, the system of remuneration or the particular moment of the day, the employee will tend to favour one system to the detriment of the other.

d) Ways of improving quality depend basically on the training of staff and on the modes of operation. From the outset one is looking at the problem from a preventive point of view because lack of quality is "irreparable". Quality is assured by building it into the system which provides the service and ensuring that it remains there.

e) Finally let us point out the importance of making the customer aware of the system for measuring and ensuring quality control.

TRAINING

Standardisation of know how

1. People are the key factors as regards the quality of a service. By giving them adequate training, their behaviour in the course of the process is guaranteed. The quality of the service they offer when in contact with the customer will depend on their qualifications, training and motivation.

2. Machines sometimes replace human staff, as is the case for instance with an automatic ticket machine. Then it is the availability (reliability and ease of use) of the machine which ensure the quality of service.

3. Finally the mode of operation is very important. This heading includes all the rules and procedures which underlie the production process. While standardisation of working procedures (24) and methods, in the absence of standardisation of know how can present the negative effects of and limit freedom of action, it does have the advantage of fixing a minimum level of uniformity. In passing, it is worth noting the importance of failsafe automatic systems, and foolproof procedures which can guarantee minimum safety standards. An example of this

would be a device to automatically raise a basket of French fries after ten minutes of cooking.

7. THE MULTISITE SERVICE

Let it be said in conclusion that a service that cannot be stored can be moved only with great difficulty. This means that in most cases a service will be repeated in identical form (agencies, offices etc.) in order to bring it closer to the consumer. How then can a constant standard of quality be guaranteed throughout a network of restaurants bearing the same sign, or in the various external services provided by the same management group? In this instance, it is important to have a clearly defined service-process concept, which is consequently easy to reproduce, distribute, communicate and control. Jean-Paul Flipo mentions as examples the procedures adopted by 'Les 4 pentes' chain, and also that used by 'Meridien' hotels. (3)

8. SELECTION OF STAFF

Following on from the above, it is clear that the selection criteria for staff recruited for the interface area should not be the same as for those in the support area. As we pointed out already, the staff in the interface area must always be able to adapt to the customer's request and channel it in an appropriate direction. They must be able to deal with unforeseen problems and react in a creative manner as their efforts directly influence the quality of the service provided. Selection and training are therefore essential, (selection of attractive people who can deal pleasantly with the public, training of receptionists, the training of MacDonal'd staff in a "Hamburger University").

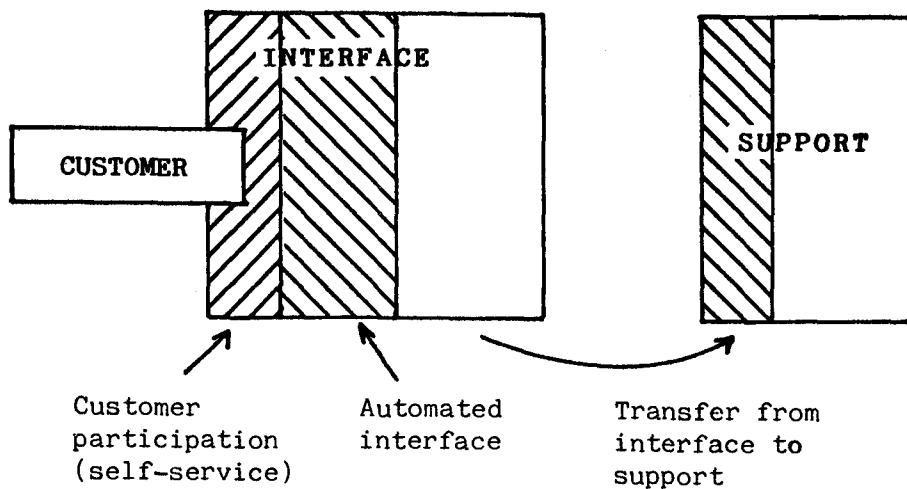
Conversely, the staff in the support section are almost transparent to the customer as in the case of cheque processing in a bank, or the movement of passenger luggage in an airport.

III. CONSEQUENCES OF THE DEFINITION FOR THE ORGANISATION OF THE INTERFACE AND SUPPORT SECTORS.

1. THREE FREQUENT SUBSTITUTIONS

Management of the interface sector is delicate. Customer relations are difficult to plan because of both the volume and the heterogeneous nature of demand. It effects the production cycle (time spent with the customer), the quality of the service... We can discern three possible ways of dealing with these problems

- 1 - replace the staff in the interface sector with machines or technology
- 2 - reduce the interface sector by the customer
- 3 - reduce the interface sector by passing some of its activities on to the support sector.



1) The first of these substitutions is very common (ticket machines, signs etc.). Nevertheless the interaction problematic remains unchanged so that, for example, at peak periods there is as much chance of a queue at a cash machine as at a bank teller's. Over and above the work-capital aspect of substitution with which we are not concerned in this article, we can simply point out that automation reduces the unknown factors in the duration of the operation and so allows for better planning (standardisation of the service) ... although the evidence relating to elderly people who use these machines casts doubt on this point (see reference (3)).

2) The replacement of staff by customers which occurs equally often, is somewhat more complex. One might quote as examples the filling in of administration forms by the customer, companies having to calculate their own tax payments, customers in Hypermarkets preparing their own orders, (decentralisation of postal services to a customer's home), mail order services, self-diagnosis kits.

As a result, the organisation gains on two fronts:

- An unpaid workforce now carries out tasks previously carried on by professional staff.

- Since the customer is generally left to himself for a large part of the task, the human interaction part of the system is reduced accordingly (conversely a definite effort must be made to guide and train the customer). However, it must be noted that this substitution has its own limitations in the quality of the work furnished by the customer ; this is particularly true when the organisation, basing itself on the customer's work, carries out a whole series of operations which could prove useless or distorting.

3) To move certain activities from the interface sector back towards the support sector, the nature of the operation has to be transformed. Thus replacing direct contact or a telephone call by a letter leads automatically from one category to another. The organisation may find certain advantages in this: storage and balancing of work loads and capacity, use of less qualified staff, simplification and standardisation of operations. It is worthy of note that many administrative groups operate in the exact opposite manner by demanding that the customer come in person rather than do things by post.

2. DIVIDING UP OF TASKS BETWEEN INTERFACE AND SUPPORT SECTORS

Separating the two types of activity ...

These two sectors with their strong weak interaction levels will naturally be separated because of their different missions and priorities and there will be a tendency to steer them towards what they do best: flexibility (appropriate response to demand) and quality of conception in the first case, productivity and standardisation of quality in the second case. Operations management

in both cases will be simplified and objectives made clearer. Note in particular that the two sectors do not need the same kind of staff. We all have experienced the conflict inherent in our secretaries' double task (typing and telephone communications) which is very unproductive - a fact that probably explains the existence of so many telephone switchboards and typing pools.

It is possible to carry out a fairly detailed analysis of the functions or activities carried out in the "hot" sectors, up front, where interaction is strong, and the "cold" sectors, 'behind the scenes', where interaction is weak. For each action or activity, we will try to define the level of human interaction that is required, the contribution it makes to the objectives of the department and we will then decide either to keep it in the foreground, to sweep it into the background or to discard it entirely. However efficient this distribution of tasks between interactive and support services, it should be used with the following reservations: (see reference (4))

... whilst respecting
certain principles

Separating the two kinds of activity could lead to the splitting of an organisation into two parts, one 'exposed' to the customer, subject to variable workloads..., the other working peacefully and efficiently. This principle can be harmful in practice, and the best way of solving the problem of peak periods is in fact to allocate to one service, tasks or duties of an interactive kind as well as those of a support type (for instance, archive work). The distinction between these two kinds of task should not therefore lead automatically to their being allocated to different units, because this would lessen flexibility at peak periods (a flexibility which is ensured by the movement of staff between sectors).

Moreover, to enhance the quality of the service given to the customer and to enrich the staff job function, the duration of contact between the consumer and the system could be increased, thus bringing into the interactive service sector activities which could have been dealt with in the support sector. A good example of this is given in the handling of the grey national identity cards

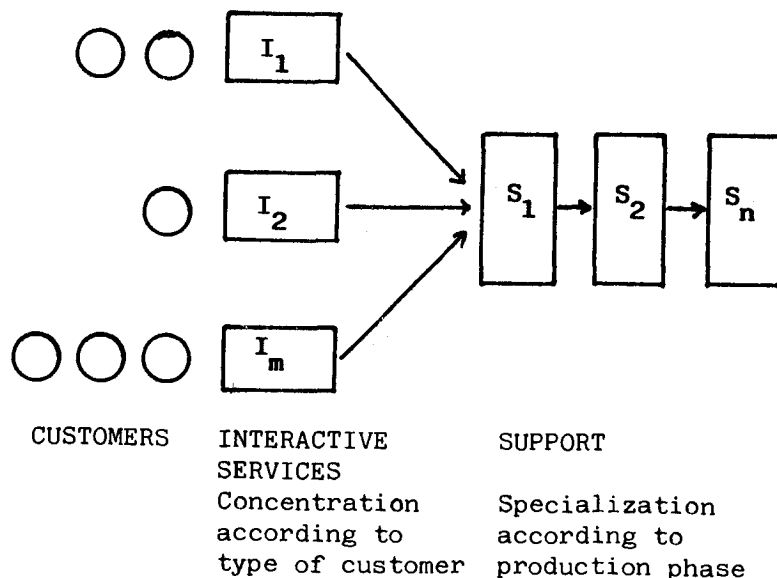
which were once distributed in Paris from Police Headquarters, but which are now dealt with by the local police in each arrondissement or precinct. Two diagrams are possible:

	1.	2.
- Handing over of relevant documents by the user. Inspection by the employee	USER PRESENT	USER PRESENT
- Validation by computer	USER ABSENT	USER PRESENT
- Creation of the new document	USER ABSENT	USER PRESENT
- Documents returned to user	USER PRESENT	USER PRESENT

To avoid disturbing the user on two occasions the administration carries out all necessary work to draw up the document while the user is present. The main disadvantage for the administration is that in diagram 1, the entire staff could deal with the customer at peak periods and deal with other tasks during slack periods. This can now no longer be done and so it is now possible that staff will be inactive at certain periods and, furthermore, to avoid prolonging the user waiting period it may be necessary to increase staff slightly. On the other hand, and in this particular instance, one could envisage the customer accepting the increased waiting period in order to avoid a second visit to the Police station.

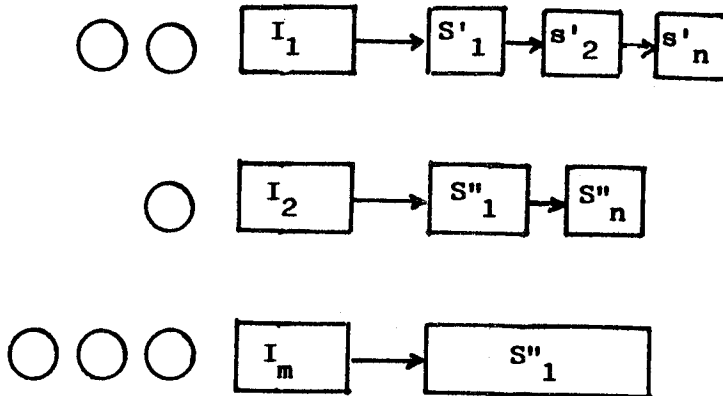
Finally, within the interactive service sector, tasks are usually allocated according to the type of clientele, with a strong onus on the staff to satisfy the customer. Within the support service sector, work is often allocated and dealt with by specialist staff according to the phase in the production process. Thus there is a risk of conflict between the two separate service philosophies:

ACCORDING TO FUNCTION



In this kind of organisation, one often finds the support services complaining about the over-specific requirements of the interactive 'marketing' sector, whereas the latter are found to complain about the inflexibility of the back-up sector and the difficulty of coping with the priority systems that they apply. This problem is found in the traditional type of restaurant with the conflict between dining-room staff and kitchen staff.

ACCORDING TO PRODUCT



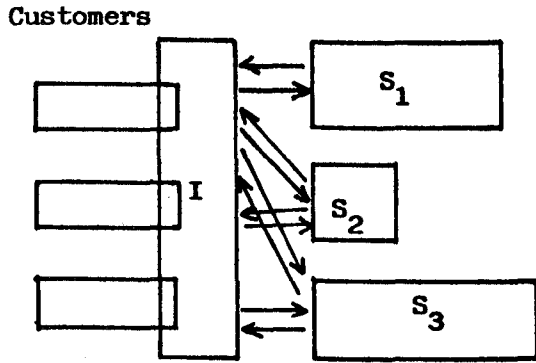
One solution might be to group together the interface and support sectors according to 'product'. For example, rather than having one single large support computer one could envisage several dedicated micros, with one for each principal type of service. In a similar way, one could envisage two separate kitchens in a central restaurant service delivering both high quality and fast food.

3. CONCENTRATING ON THE INTERFACE

As we have seen already the service offered is in fact made up of a series of basic services that can vary in their explicitness. Should one bring all these services under the same interface umbrella, or have several systems 'concentrated' according to the kind of service? The question is really to know how far one can go in defining a 'range of services' whose scope gets increasingly narrower and consequently less flexible, but more homogeneous and better adapted to the needs of certain segments of the clientele. A vast number of examples exist, but a few borderline cases can best explain our point:

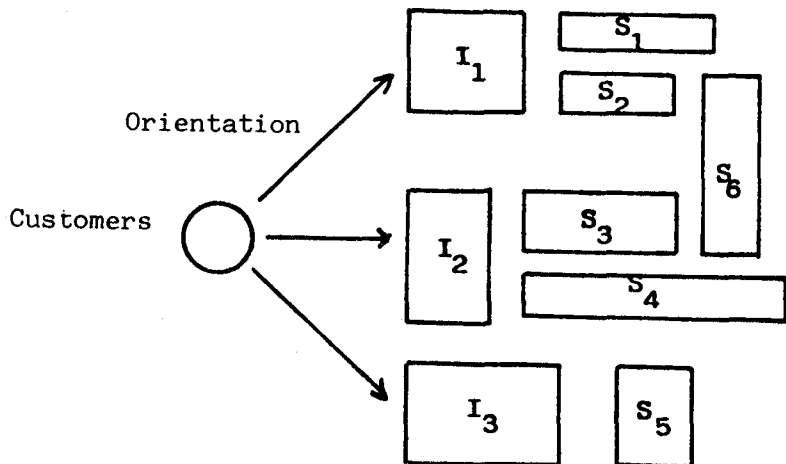
Case of unfocused interface

- The case of a counter area or desk where customers' requests for a wide variety of services are received. Considering the great variety of demands, this counter area has the simple function of recording and then passing on the basic processing of the request to the support section.



Cases of focused interfaces and problems of customer guidance

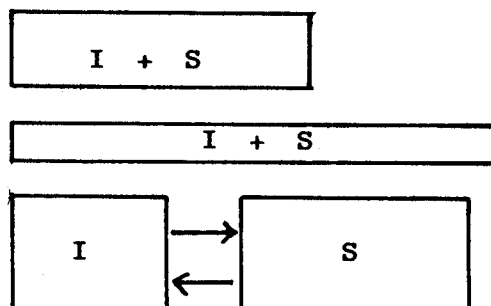
The instance of counter areas which are relatively focused on certain services (deposits, lending, foreign exchange, bonds...) or according to type of customer (wholesalers, retailers, private individuals...)



The service will then be better able to deal with the needs of particular customers, and it will be able to deal with them in depth. One important problem remains: How will the customer know where to go? Some form of guidance or direction is necessary so as to ensure that the customer is directed to the correct interface. This role of guide, perhaps one might call it scheduling, is sometimes filled by the telephone switchboard, the secretary responsible for the sorting of incoming mail, the receptionist for the information desk. The importance of this function of guidance and distribution should not be underestimated as it may be the customer's first contact with the service and will influence the image about the quality of a service which he has yet to experience.

Case of a highly focused counter area and the complete processing of a request

The case of a counter area which specialises in certain operations which it processes entirely in the customer's presence (savings bank transactions or certain kinds of ending). This borderline case eliminates the need for a second processing in the support sector but the transactions have to remain very focused. This is enriching for the employee who will be responsible, in the customer's eyes, for the entire operation, and the service will also be enhanced for the customer if he is able to interact with the employee during the entire transaction more or less.



IV. CONCLUSION

The improvement of quality and productivity in the service sector, which was the factor that motivated the present article, has resulted in the development of two methods of tackling the problem of effective service management:

- We must stop looking on them as a homogeneous macro-economic sector - the tertiary sector.

- We must stop looking on them as a 'separate' sector entitled to special treatment because of the specific nature of its operations.

The distinction between service and industrial production, in order to be operational, should be made not at an economic level but at an operational level. Every activity can be divided into operations which concern either the interface or the support sector and it is the relative importance of each group of operations which leads either to the use of industrial production techniques or to the use of service management techniques.

The support part of the activity differs from industrial manufacturing only in:

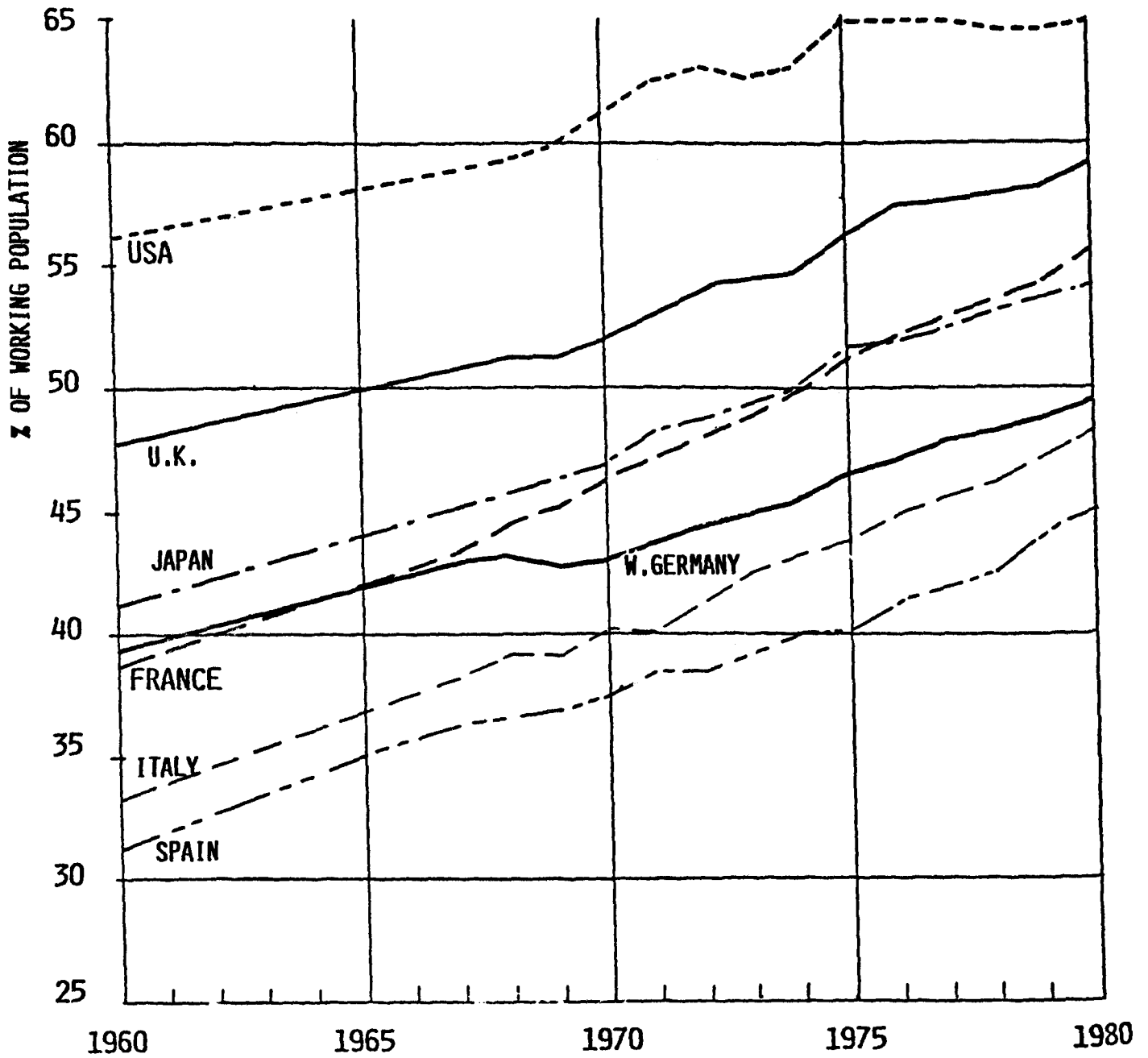
- its objectives which are sometimes difficult to define and
- the constraints placed on it by status of staff, legal delays...

The basic problem in operations management (finding a suitable 'mix' of quality, productivity and flexibility) remains the same, the concepts to be utilised are the same, the consideration of constraints and objectives is done in the same way. Whether the minimal delay between the two operations is dependent on legal or technological constraints changes nothing in the scheduling procedures. This does not mean however that all the techniques practised in industry can and should be transposed systematically to the management of 'support' sectors. Operations management, because of its interest in transformation processes, is a discipline which depends very much on the area in which it is applied. Just as most production management methods are applied more or less successfully to all kinds of production systems, it is probable that their use in service management and administrative operations management will not be equally fruitful, even if it is intellectually valid.

The interface part of service activities being, for its part, correctly defined and its limitations properly identified, they can be taken into account without allowing them to weigh uselessly on the whole of the organisation; and it is in this area that specific research would be most fruitful.

Overall, we wanted to find among the different possible and often lengthy definitions, the one that would be most 'economic' and which would enable us to tackle operationally, the area of quality and production improvement in a sector which is traditionally immune to such an approach.

EMPLOYMENT IN SERVICES



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