EXPLAINING QUEUEING BEHAVIOR

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"As if you could kill time without injuring eternity."
H.D. Thoreau.

COMMERCIAL AND SOCIAL CONTEXT

It is not my intention to address any statistical problems of queueing. Instead I focus on the behaviour of queueing and the psychological theories that help to explain why people complain so little when they have to wait. I report no new research and can refer to little that has been published on this topic. Despite the lack of published research there is a strong case for study in this field. Managements offering a low congestion service may be able to gain at the expense of their competitors and issues of public policy depend upon the consumer's reaction to waiting.

The queue is a common feature of British life; it is a form of order which is generally respected, indeed some of my British countrymen take a perverse pride in our controlled behaviour in queues. Maister (1985), a North American, remarks drily that "if the British see a queue they join it." But queueing, or "waiting in line" as Americans often term it, is to be found anywhere where irregular demand or supply creates the need for a buffer between the two. Some customer delay is unavoidable but on many other occasions people are obliged to wait because of bad planning, poor management or inadequate provision. As consumers we complain too little about such situations; in consequence the managers, politicians and others, who are responsible for many of the delays, may not feel much pressure to provide a better service to consumers.

WHERE QUEUES ARE COMMON

Queues are associated with particular services and it is often the same services in different countries. In Britain Banks often expect their customers to wait; they have eased the problem by installing automatic teller machines but these sometimes create their own queues on Saturdays.

Queues are also common in supermarkets in Britain. Many people accept this as a consequence of the high demand for a valuable service. They can point to the sheer numbers on Friday evening and Saturday morning as an explanation for the problem. My own view is that the skills that store chain managements show in merchandising are not matched by attention to customer usage patterns and that big stores are relatively unresponsive to the problem of queueing. Often insufficient checkouts are open at both busy and quiet times and extra checkouts are opened after queues have formed despite the fact that checkout pressure can be predicted from the rate of arrivals at the store. In Britain supermarkets do not publicise when the stores are less congested; no incentives are used to increase shopping at off-peak times and packers are rarely used to speed transit through the checkout. 'Basket only' and 'cash only' express outlets do little to alleviate the problem.

In the public sector main post offices are particularly prone to queues. Often they have enough counters but fail to staff them at times when pressure is greatest. The deficiencies of service are partly the result of an unexpected increase in the use of Post Office services in recent years. The understaffing suggests poor resourcing, but indifferent management, poor training and inefficient working practices could also explain the frequent delay experienced in main post offices.

In Britain delays are common in other public services: ticket purchasing at railway stations, obtaining a passport, dealing with the tax authorities and getting medical treatment can all be cited.

THE CASE FOR DELAYS

Some waiting for service can be justified. Services like buses are occasional, and a queue must form in the interval between services. The queue ensures that an expensive service such as a doctor's advice can be used continuously. From the standpoint of the supplier this smoothing function increases efficiency. The queue also spreads demand. People may avoid the supermarket on a Saturday morning and either go at a different time or pay more and go to the corner shop. More questionably, demand for medical treatment is spread when people are forced onto the private market for operations. Although queues seem to benefit the supplier most, the customer also gains through the efficient use of resources. Delays may reduce prices at the checkout and the rationing imposed by delays may also reduce the cost of health provision.

But perhaps consumers would pay the extra price and save time? And have we calculated all the costs of delay? Queueing is a waste of the customer's time and this has a value in the economy to be compared with the value attaching to the service supplier's time. Relevant here is an analysis by Gershuny (1986) on the scope for more consumption in the economy. Gershuny argued that time was the scarce resource which restrained expansion of consumption. This led him to look at ways in which consumption might be concentrated by adding value to existing consumption (e.g. better TV quality) or by extending the context of consumption (e.g. by using phones in cars). Queues, by wasting time, restrain both production and consumption.

Let us accept therefore that a well organised society will have some queues for certain services at particular times. What is at issue is whether a collective advantage can be gained by reducing waiting or by making any delay more tolerable.

COSTS OF QUEUEING

It seems that time loss is only part of the problem; there are several other costs that may be associated with a queue:

1. Unexpectedness. A queue carries a measure of uncertainty about the delay; people seem to be happier when the waiting time is predictable.

Clemmer and Schneider (1987) explored dissatisfaction in bank queues. They found that the more unexpected the wait the greater the dissatisfaction. Similar effects can be noted in traffic delays.

2. Opportunity costs. Usually people have to wait in circumstances that prevent them from doing anything else. Maister notes that a mirror at the access to the lift gives people the opportunity to check their appearance and thus fill their time.

3. Inequity. When several counters each have a queue there is the potential for inequality between the waiting times, depending upon which queue is joined. A feature of many banks and post offices is the single line queueing system whereby all customers wait in one queue and go to the first till or counter that becomes vacant. This system is popular, presumably because it reduces uncertainty and equalises the delay between customers, but it does nothing to shorten the average delay.

4. Proportional justice. Homans (1961) explained this well. In their exchange with a store people expect their costs to be proportional to their benefits. In particularly they resent a long wait if they are buying little. Supermarket managements obviously share this thinking when they provide express checkouts for small buyers though the commercial value of this service is probably low.

5. Status loss. In many circumstances the person of higher status wastes the time of the person of lower status. Depending on the situation queueing can be demeaning for those who wait and status enhancing for those who provide the service in demand.

CONSUMER TOLERANCE

People quite strongly resent queueing, yet they seem to put up with it with little distress. If you ask people about supermarket queues you release a stream of frustration about how they have been delayed: the perversity of the person in front, the slowness of the checkout operator and so on. In supermarkets people have conscious tactics for picking the quickest checkout: is the operator a novice? How long will it take to process the goods of the people in front and will they pay by cheque? Once in the queue people wait with little show of irritation; very rarely do they complain about the delay. I find that I reflect on the lifestyle of the person in front as this is displayed by the contents of his or her trolley. The same fortitude is found in other contexts where delay is common; in traffic jams people sometimes show their frustration but mostly they wait patiently; people even accept the way service staff sit behind closed counters; and they wait in pain for months before their turn comes for surgical operations. People do dislike waiting but they put up with it with little demur at the time; their behaviour evokes the words of Pink Floyd (adapting Thoreau) 'Hanging on in quiet desperation is the English way'.

What reasons are there for lack of complaint? There are at least six possibilities.

1. People may feel, with good reason, that their complaints may have little effect. In effect the costs of complaint exceed the benefits.

2. It may be difficult to identify anyone responsible for a delay. Do we wait to buy stamps because the Government has starved the Post Office of resources, the management is ineffective at deploying staff, or the staff have secured unrealistic working practices through their union? Are the waits for operations entirely due to shortage of funds or is it also because consultants are sometimes a law unto themselves? Effective action against delay requires an answer to these questions and it is not easily found.

One development in consumer protection would be more effective identification of responsible service providers.

3. Even when people do resolve to complain about a delay they often fail to act. In part this must be because the energy which drives people to complain is born from the frustration of delay and dies when frustration is ended at the head of the queue.

4. Sometimes customers may blame themselves for using services at peak periods; often people can shop at quieter times. When they see themselves to blame, people are not likely to complain to the service provider. On the other side of the coin it would be interesting to find out who is blamed for congestion by the service provider; in public transport managers may blame their political masters for inadequacies of funding, in supermarkets the management may blame the public for not coming at quiet times and so on. This attribution of responsibility (Jones and Davis, 1965; Kelley, 1967) is relevant to whether the manager accepts that there is a problem that needs his or her attention; by seeing someone else as responsible they may be able to avoid taking action.

The attribution of responsibility seems to depend upon subtle aspects of the situation. Clemmer and Schneider (1987) found that dissatisfaction with bank queues was somewhat greater when the teller apologised for the delay. The tellers tried to put the blame on impersonal factors but, judging from the customers' responses, they failed.

Another subtlety of the situation is the relative status of supplier and customer which, as has been noted, may be changed by having to wait.

5. An important mechanism that inhibits customer action is habituation. This has two aspects, desensitisation when a stimulus loses the power to evoke response, and satiation when a reinforcer loses the power to reward behaviour. Frequent and predictable delays are a stimulus that people may learn not to respond to. One can see this on the Underground when people emerge from extremely cramped carriages with no signs of distress. In general the process of 'switching off' during repetitive action is efficient because it leaves attention free for the unexpected aspects of our environment. When an activity is unpleasant there is an additional self-defensive function of desensitisation since it reduces conscious suffering. An unfortunate consequence of this mechanism is that the most frequent delays are the ones that people are least likely to react to. This desensitisation mechanism may also affect the service providers so that they do not notice that their services are deficient.

Tolerance of recurrent delay is a special case of a

consumption phenomenon which I call East's Rule of Consumer Inefficiency: consumers often tolerate product or service inadequacies more when they concern a frequently used article such as a TV, shaver or bed than when they concern an infrequently used product such as a roof rack or a fish kettle. The reader will probably think of exceptions but may recognise an element of truth in this proposition, given that repetitive consumption deserves more resources than infrequently used goods and services. I think desensitisation contributes to consumer inefficiency though another factor is the biasing of thought in favour of the changing features of the environment (Tversky and Kahneman, 1980).

6. Behaviour is rule governed. Rules govern the process of complaining; often the implicit rule is that you do not complain. Over one year I urged about a hundred students to complain as they entered the supermarket if there were queues at the checkout; only one student reported having done so and this low response suggests to me that such complaining is unconventional and people find it hard to act outside the rules. I complain myself if there are supermarket queues and have found that supermarket staff are quite startled by the request that they get more people on the checkouts.

REMEDIAL ACTION BY THE SERVICE SUPPLIER – SUPERMARKETS

This section is focused on the management response to queueing in supermarkets but some of what is said may be applied to other services.

In Britain, as elsewhere, the major store chains are similar; Sainsbury, Tesco and Safeway all have tins of red kidney beans, packets of damp bacon and queues on a Friday night. We also know that people use several stores; Uncles and Ehrenberg (1986) and Totten and Block (1987) have shown that shoppers have a 'store portfolio' just as they have a brand portfolio. Although patronage shares are fairly stable between stores it is possible in this situation that a well advertised difference between the retail chains could change market share.

Supermarkets can respond to this situation by offering facilities not found in the competition. Handling customer congestion better is one route to service improvement; there are two strategies. The first is amelioration: to make queueing a less unpleasant or even a pleasant experience. The second is radical change to reduce or eliminate the problem.

Amelioration

Maister (1985) suggests that the evaluation of waiting depends upon what was expected. Expectations can be changed and this therefore gives one avenue for queue management. For example people expect congestion at weekends and managements should emphasise the problem; this helps people to accept the delays on Friday nights and Saturday mornings (and may encourage some people to shop at other times). Another strategy is to make the queue more interesting by providing information about new products, discounts and local news on video. There is a danger that such services imply acceptance of the queue by the management so research is required to find out how shoppers would regard video at the checkout. There is also a problem that pleasant queueing may increase congestion because people are less deterred by the queues.

Radical Change

Managements could publicise when the stores are less congested, incentives could be given to shoppers at off-peak times, packers could be used more often to speed transit through the checkout. Managements could be more alert to the signs of store congestion; they could count arrivals electronically and open checkouts in advance of demand. EPOS facilities can also be used to measure the speed of checkout staff so that the fastest can be used at peak periods. There is a case for much higher rates of pay at peak times when one checkout not working represents substantial lost business.

TARGETS FOR RESEARCH

Research on patrons could cover the following:

* Their feelings about queueing.
* Whether they think that such delays are avoidable.
* Who they blame for queueing.
* Whether they know when the stores are less busy.
* Whether they could come when the stores are less busy.

A parallel research programme could look at the perceptions of supermarket staff.

Such work should lead to managerial interventions which are area tested. To my mind the central issue is the extent to which the peaks and troughs in service demand are known to shoppers and whether these shoppers can change their shopping times so that stores are used better in the off-peak periods.

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