

## Barriers to entry and expansion

### Introduction

1. This appendix looks at possible barriers to entry and expansion; analysis of entry barriers by types of entrants; different models of entry; and finally at the history of entry and exit.

### Barriers to entry and expansion

2. We considered a number of possible barriers to the entry and expansion to the supply of sweepers in the UK. We divided these in two groups: marketing and support barriers to entry or expansion, and production-related entry and expansion barriers.
3. The marketing and support barriers to entry and expansion we considered were:
  - (a) the ability to establish sales relationships with key customers;
  - (b) the cost and time to develop an effective distribution network;
  - (c) the ability to establish an effective after-sales network and spare parts supply;
  - (d) supplier reputation; and
  - (e) customer preferences;
4. The production related barriers to entry and expansion we considered were:
  - (a) R&D and engineering design skills;
  - (b) regulatory approval;
  - (c) production expertise; and
  - (d) the need for readily-available capacity.

5. We began by focusing on the marketing and support barriers, as these were likely to constrain to a greater or lesser extent all existing firms in the UK sweeper market and all new entrants. The production-related barriers were likely to be met largely by most firms that already manufactured sweepers in the UK or elsewhere, and were most strongly binding on new product market entrants. The ability of different categories of incumbents (including Bucher) to expand in the UK and the ability of different types of potential entrants to penetrate the UK market is examined in greater detail in Appendix E.

### ***Establishing sales relationships with key customers***

6. Sweeper sales managers usually cultivated relationships with local authorities and other key buyers, trying to be consulted in the drafting of tender specifications and to influence purchasing choices by local authorities and their intermediaries (see Appendix F for a detailed explanation of the purchasing process). Generally, the breadth of sales relationships was directly related to the number of existing customers. For this reason, the incumbents with the greatest sales were likely to have the strongest customer relationships.
7. One way new entrants could lower this barrier was to hire current or former sales staff from established suppliers. However, there was likely to be only a limited pool of such people to hire from, and they may have required a premium in salary to work for a new entrant.
8. Most incumbents seeking to expand could build upon their existing relationships, particularly if they already sold sweepers for municipal cleaning purposes. The advantage derived from these relationships depended on the number of existing customers, and the relative success of existing products.

### ***Setting up effective distribution arrangements***

9. The cost and time for setting up distribution arrangements was generally quite high. Generally there were two types of distribution arrangements:
  - (a) vertically integrated or 'direct' distribution; and
  - (b) partnership with an independent distributor.
  
10. More than two-thirds of respondents to our customer survey did not consider any brands supplied and distributed from outside the UK for their last sweeper purchase. Furthermore, brands without UK distribution currently made very few sales in the UK. Bucher's sales dropped sharply after its distribution agreement with AssetCo was terminated, for example. In addition, we asked competitors whether companies outside the UK without UK-based distribution networks competed in the UK supply of sweepers, and all the responses we received were that this is generally rare, and usually unsuccessful. Bucher and Johnston agreed.
  
11. Bucher estimated that if it were to enter the UK directly, its costs would range from £500,000 to £750,000 annually. Advertising and promotions would have added a further one-time cost of £500,000 to £1 million. Another supplier estimated direct entry costs to run between £1 million and £1.5 million annually, depending on the size of the operation. In the longer term, a vertically-integrated entry strategy would possibly allow for greater profitability by avoiding the sharing of margins with third party distributors; it could also allow for greater control over service quality and reliability.
  
12. The costs of setting up and operating distribution arrangements were generally higher for vertically-integrated distribution than for partnership with a distributor. The main risk of entry in partnership with a distributor was finding a distributor with the necessary customer relationships and skills to penetrate the market quickly. There

was the additional risk of loss of control over sales and marketing. Bucher and Johnston provided a model of entry for an entrant in the UK truck-mounted sector in partnership with a distributor. They estimated that it would take up to five years for such an entrant to become profitable, and over the first four years it would have lost a total of about £500,000. The results of our competitor questionnaire were similar: when asked how long it would take for a new supplier to establish a sustainable presence in the UK, the majority of respondents who answered this question estimated that the time would be somewhere between three to five years.

13. Minimum distribution requirements included a headquarters function (including premises, equipment IT, and sales and administrative staff), and a storage depot. Additional costs included type approval costs, exhibition costs, advertising, demonstration vehicles and customer training sessions. There were significant scale economies, most of which are UK-specific (premises, labour), but some could have been Europe-wide (inventory tracking systems, etc). An entrant needed the resources and backing to sustain it through the first few years with low sales, until it reached a minimum efficient scale.
14. A supplier with no existing UK distribution network needed to incur a cost to enter the market, whereas most of this cost was already sunk for those with established distribution arrangements. Even where an entrant had an existing UK distribution network for related products, there was likely to be some time required and some adjustment costs to accommodate sweeper sales.

### ***Establishing an effective after-sales network***

15. We were told repeatedly that buyers were not willing to purchase a sweeper unless they perceived the after-sales support to be reliable. We noted that there are degrees of after-sales support, with active suppliers offering high-quality support (24-hour

breakdown service, rapid delivery of spare parts, training of engineers and technicians, etc) while more passive suppliers offer lower-quality support (intermittent spare parts availability, delays, etc).

16. We were told by Johnston and other large suppliers that an effective after-sales network required at least one workshop staffed with skilled engineers and a number of further mobile repair engineers in vans, covering the country and ideally providing 24-hour cover. In addition, some suppliers also required storage depot space for spare parts, an inventory tracking and billing system and telephone operators.
17. Almost all buyers used the supplier's after-sales servicing during the warranty period and also for major breakdowns; this was generally unrelated to whether they had their own in-house servicing.
18. A new entrant or an expanding incumbent needed to incur certain costs and required time to set up or expand their after-sales network. Generally it seemed to us that the time and costs required to adjust an existing arrangement would be lower than setting up a new one, particularly if the existing arrangement was fairly comprehensive in its geographical scope and services covered.

### ***Supplier reputation***

19. Supplier reputation in terms of quality of product and support, and long-term commitment to the market, were essential to achieve sales. In our customer survey, buyers cited reliability and performance as the top two factors in purchasing sweepers. Local authorities and their intermediaries wished to minimize sweeper downtime in order to meet cleaning targets on time, attaching a premium to proven reliability and track record.

20. We heard much evidence that customers were reluctant to be the first to try a new product. We were told that customers were very conservative, and even at a discount would be reluctant to take the risk of buying a product whose reliability and support were not already tried and tested in the market.
21. Sweeper purchases are often lumpy and irregular. It appeared that customers with small fleets who bought sweepers once every two to three years might have been reluctant to take a risk on a sweeper that did not already have a good reputation for reliability and performance.
22. One of the methods used by entrants to counter the lack of an established reputation was to offer free use of demonstration sweepers for anywhere from one to six months. We also noted some instances of suppliers offering warranties of over a year. All of these entailed additional costs.
23. We noted that there were considerable new product introductions and expansions into new market segments by existing firms. We received some evidence that some customers were more willing to purchase a new product from an existing supplier, and more generally, customers had a preference to remain with their existing suppliers (see paragraph 26).
24. It appeared to us that existing firms in the market with significant sales would be best placed for expansion into new product areas, as in most cases they could build upon their existing reputations without great difficulty to expand into new product areas. It appeared harder for a new and unknown entrant to do this. Among the entrants, the better-placed ones were likely to be those with an existing UK reputation from a closely-related product, or those with strong reputations in sweepers in other geographical markets.

## ***Customer preferences***

25. Some aspects of customer preferences tended to favour incumbents and appeared to make entry or expansion by smaller players more difficult. These included: a preference for existing suppliers, a preference to buy sweepers from a single manufacturer; and a preference for sweepers made in the UK.

### *Preference for existing supplier*

26. In our buyer survey, many customers indicated a preference for their existing supplier. Reasons included familiarity and trust, servicing know-how, existing relationships, fleet consistency, and convenience. The importance of a customer's familiarity with and trust in their supplier were discussed under reputation above (see paragraph 19), as was the role of existing customer relationships (see paragraphs 6 to 8).
27. We also received evidence that a sweeper fleet would be less costly to operate and maintain if it were standardized to include a limited number of different makes in it. Our customer survey indicated that introducing a new model into a fleet involved new costs due to driver and engineer training, and the need to hold additional spares. Such costs were likely to be less significant if the new model came from an existing supplier and had features in common with sweepers already in the fleet.
28. All these factors created potential switching costs to a customer moving away from an existing supplier, and gave incumbents with significant existing sales an advantage over entrants and smaller existing suppliers.

### *Preference to buy sweepers made by a single manufacturer*

29. Some customers preferred to buy all their sweepers of a certain type or types from a single manufacturer to achieve a better volume discount and to simplify training of

servicing engineers and minimize spare parts inventories. In our survey, 35 per cent of respondents said that they had only one supplier. In all, 95 per cent of respondents said that over half of their fleet was made up of a single make of sweeper.

30. On the whole we did not think there was an advantage to being able to offer customers all their sweeper purchases from a 'one-stop shop', although one large customer told us that this was a growing trend, and one supplier also considered it important. However, the remaining customers we spoke to did not consider this as an advantage. Indeed, a number of larger customers made it clear that they preferred to have multiple suppliers in order to leverage one off against the other.
31. While we did not consider the ability to offer a one-stop shop to be a strong advantage, we found stronger evidence that some degree of standardization of fleets is helpful in reducing servicing costs and improving operator adaptability to different sweepers (see paragraph 27). We thought this may have been of declining importance, however, as sweepers were becoming more technical and customers increasingly were relying upon suppliers to service them.
32. Where standardization efficiencies existed, they would be more advantageous to customers relying heavily on their own in-house servicing. The majority (86 per cent) of respondents to our customer survey had their own in-house servicing, but almost half of respondents did rely on manufacturer or distributor servicing for some or all of their servicing requirements. Most respondents indicated that it would not be easy to service a new machine or another manufacturer's machine, as it would be dependent on training offered by the manufacturer and would involve some time and cost to bring technicians up to speed.

33. Where a standardization preference existed, perhaps within a type of sweeper, it was likely to disadvantage a new entrant or existing supplier with limited sales, as they would have to find a way to break into existing fleet segments dominated by larger incumbents with significant market penetration.
34. The main strategy to overcome this possible barrier was for the manufacturer to offer complementary training to the customer's service engineers and drivers, as well as extended warranties. All of these measures would come at an extra cost to the supplier.

#### *Preference for sweepers made in the UK*

35. We received mixed evidence on the importance of UK production. We were told that some local authorities preferred to have a 'made in the UK' badge; and occasionally buyers of truck-mounted sweepers wanted to inspect the mounting of the skid on their chassis. One large buyer indicated that it preferred a UK-produced sweeper because there were less likely to be shortages in spare parts. Other customers told us that they did not care where the sweeper was manufactured as long as there was sufficient support in the UK. Some even indicated that they would encourage foreign entry if they saw a competitive need.
36. Bucher and Johnston told us that customers did not tend to have a preference for sweepers manufactured in the UK. They told us that most donor chassis were now made abroad anyway, and could be sourced from a UK dealer and delivered to the sweeper manufacturer to reduce lead time, and that very few customers in fact inspected their sweepers during production.
37. Given customer preferences for an existing manufacturer, for some standardization within their fleets, and to a lesser extent, for UK-manufactured or -assembled

sweepers, incumbent suppliers with significant UK sales who extend their product ranges have some advantages over entrants.

38. The remaining production-related entry barriers (see below) were generally met easily by most existing sweeper suppliers, whether they were based in the UK or not. They posed a possible barrier to potential entrants from other product markets.

### ***R&D and engineering design skills***

39. R&D activity by sweeper suppliers appeared to serve two purposes. First, R&D could be used to reduce production costs. Secondly, product development was focused on meeting customer requirements such as improved reliability or innovations.
40. A capable engineering design department was essential for product development and for securing regulatory approvals. We noted that some buyers seemed to prefer innovative products while others preferred 'simple machines that worked' and were easy to repair. Some customers disliked product innovations, particularly technical ones, viewing them as a way of increasing customer reliance on manufacturer servicing.
41. A large proportion of R&D spending was used by manufacturers to reduce production costs. These improved production methods required time, engineering skills, and resources for a new entrant to develop.
42. In general, most sweeper manufacturers inside and outside the UK already had capable engineering design departments, and were unlikely to find this a binding constraint. Entrants from related product markets may have required some time and resources to perform the required R&D for outdoor sweepers.

### ***Regulatory approval***

43. Some sweepers were subject to type approval requirements, requiring testing and inspection of vehicles to ensure compliance. In the UK, the process of applying for type approval was likely to take up to two months and cost about £5,000 per approval.
44. We were told that the truck-mounted sweepers were subject to more stringent regulations, but the majority of these were met by the chassis manufacturer.
45. To the extent that regulatory approval was UK-specific, having existing UK sweeper sales would be helpful to overcoming this barrier. Most of the evidence we received indicated that this was not a serious barrier for a sweeper producer with a capable engineering design department. It could have posed a challenge for an entrant from a related product area with differing regulatory requirements.

### ***Production expertise***

46. New suppliers needed to build knowledge of production, assembly and maintenance unique to sweepers or to a particular type of sweeper. Bucher and Johnston told us that technical barriers to the production of sweepers could be low for existing sweeper manufacturers, particularly in the case of truck-mounted sweepers, where most of the onus of compliance fell upon the chassis manufacturer. They told us that barriers were low to medium for manufacturers of related products.
47. We believed these barriers were likely to be lowest for existing sweeper suppliers, given their existing in-house expertise. A number of suppliers, including respondents to our competitor questionnaire, indicated that it was perhaps easier to move up in size from producing integrated-chassis to truck-mounted sweepers, rather than vice versa. This was because the smaller sweepers were more technically complex.

### ***The need for readily-available capacity***

48. Because sweeper sales were lumpy, and sweepers were often made to order, it was necessary for suppliers to have a certain amount of spare capacity in production to be able to meet orders in a timely manner. Bucher and Johnston told us that they operated at about [ ] per cent of capacity for about [ ] per cent of the time. They estimated that smaller players in the market were likely to operate at somewhat higher capacity utilization levels.
  
49. The need for readily-available capacity meant that the minimum scale of production was larger than if products could be produced and stored until required. Existing sweeper suppliers expanding their product ranges may have been able to share this excess capacity requirement across existing and new products, reducing the need for additional spare capacity when a new product was launched. Larger sweeper suppliers may have been at an advantage in sharing this overhead, as they may have been able to share excess capacity across more products.

### **History of entry**

50. Cases of sweeper manufacturers from other markets entering the UK were numerous (Elgin, Kärcher, Dulevo, Hako, Egholm, Mathieu Yno and Schwarze).
  
51. Elgin, a US manufacturer, attempted to enter the UK in 1992 but was not successful (see section on exit). Elgin re-entered the UK market in 2004 through the distributor, Douglas, a supplier of aviation towing tractors and other airport equipment. Elgin is the largest sweeper manufacturer in the USA, and was owned by Federal Signal which also owned the Dutch sweeper manufacturer, Ravo. Elgin entered the UK with the 15-tonne truck-mounted Whirlwind, and announced plans to introduce a 7.5-tonne sweeper (*Vehicle Plant Technology*, Feb/March 2005). The current arrangement was a little over a year old, and [ ] sweepers had been sold to date.

52. Schwarze, also a US supplier, entered the UK in 2002 with a regenerative truck-mounted sweeper.
53. Kärcher, a German sweeper manufacturer, recently entered the UK sweeper market with a sub-compact model (the ICC1) and a compact model (the ICC2) which it sold through various UK dealers. In addition, Egholm, a Danish sweeper manufacturer, entered the UK market in 2004 with a sub-compact sweeper through a distribution agreement with Euromec, an established distributor of cleaning equipment to municipals. Bucher and Johnston also cited Mathieu Yno as a recent entrant. Mathieu Yno is a French sweeper and outdoor vehicle supplier, which entered the UK compact sweeper market in 2002 with the Azura 2 and Aquazura sweepers, also through Euromec.<sup>1</sup> Hako, a German company, entered the UK market with a sub-compact sweeper, the CityMaster 300, in 2001 using a mix of its own distribution and sales through a distributor. Finally Bucher and Johnston cited Dulevo and Nilfisk/Ecologica as entrants into the smaller end of the UK sweeper market. Few of these entrants had sold significant numbers of sweepers.
54. Tennant, a US company selling indoor sweepers in the UK, entered the UK sweeper market in 1998 (see Appendix E, paragraph 36, for further details of Tennant's presence in the UK.) Zoomlion, a Chinese company, told us that it was exploring the possibility of entry into the UK.

### **History of exit**

55. We heard of a number of failed cases of entry into the truck-mounted sector in the UK in the past five years. These included Elgin and Schwarze.

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<sup>1</sup>According to Mathieu Yno's web site, UK customers include the City of Westminster, and Aberdeen.

56. Schwarze, a US company, entered the UK market in 2002 which it distributed to directly. It remained for just under two years, and exited in 2003. Johnston told us that this exit was due to the high cost of maintaining a vertically-integrated distribution.
57. Elgin entered the UK market in 1992 via Ravo, with a US regenerative air sweeper. Bucher and Johnston told us that Elgin sold a limited number of units which were returned because they were incompatible with local requirements.
58. We were also told that Dennis, a major UK refuse collection vehicle manufacturer, had a past unsuccessful attempt at entering the sweeper market, with its Griffon model of sweeper. Bucher and Johnston told us that Dennis exited the sweeper market to focus on its core business.
59. We heard of plans for the sale of one type of sweeper in the UK that were set aside following the announcement of this merger. [X].