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Water
Energy
Retailing
Transport
Financial services
→Telecoms
Media
Post
→Competition policy
Policy analysis and design
Regulation
→Strategy
Dispute support services
Market design and auctions

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Google it

FIRM STRATEGY IN COMMUNICATION DEVICE, PLATFORM AND APPLICATION INTEGRATION

Google Inc's recently proposed acquisition of Motorola Mobility Holdings Inc raises some important economic issues about the merits or otherwise of vertical integration between device, platform and application providers in the communications sector. One concern for Google's shareholders is that restricting access to a particular device, platform or application could easily alienate wholesale and retail customers, and may not be a successful long-term strategy for sales and profitability.

Google, best known for its eponymous internet search engine, owns Android, the world's most popular smartphone operating system. It also owns a range of internet applications including YouTube and Google Maps. Under its present business model, Google makes Android and many of its internet applications

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available without charge to device producers and their users. Google currently makes most of its money from advertising tied to the adoption and use of its platforms and applications.

Motorola manufactures mobile phones and other communications devices, and according to Business Spectator is one of 38 device manufacturers that currently utilise Google's Android operating system. If Google's proposed acquisition proceeds, we can expect the Android platform and Google's applications to become more integrated features of Motorola devices. Google might also be less generous in making these products available for use on other mobile phone companies' devices, such as by introducing fees or keeping certain features exclusive to Motorola devices. Such a change in strategic direction could increase sales of Motorola devices, but may reduce use of Google platforms and applications by other companies and their customers. The question for Google shareholders is whether this would be more commercially successful than the current 'open access' model.

Economics teaches us that a firm can increase its profits by competing more aggressively, such as by lowering its costs and being more innovative. It can also increase its profits by limiting the amount of competition it faces. Either of these could underlie why a firm might seek to increase its level of vertical integration.

However, in the case of complementary products, services or technologies such as communications devices, platforms and applications, controlling the full vertical production chain may not always be profit maximising. Some examples of existing alternative business practices in the communications sector are given in the diagram below.

Vertical integration	E.g. Apple mobile devices and operating systems
Restricted access	E.g. Apple's iPhone initially sold only for use on AT&T's network in the US
Open access	E.g. Independent apps available for Apple's iPhone and iPads and devices that use Android

THE ECONOMICS OF VERTICAL INTEGRATION

The vertical boundaries of a firm are formed by the activities that it performs itself rather than contracts to other firms. The choice of where to draw these boundaries is not a straightforward exercise. It is likely a number of factors govern the profitability of different vertical arrangements for device manufacturers, platform operators and application developers.

One reason firms purchase from an independent supplier is that the independent supplier produces a good or service at lower cost than the firm itself can. Independent suppliers might supply several other firms and therefore can exploit economies of scale. For example, by making Android available to several device manufacturers, Google spreads its development costs more widely.

Further, independent suppliers operating upstream or downstream from the firm may have specialist knowledge or technological advantages that are difficult to replicate. This can be driven by their direct exposure to a whole market, rather than simply the internal demands of an integrated firm. One cannot imagine, for example, that people employed within Apple Inc. could have come up with and produced at lower cost all the thousands of apps that are available for use on Apple's devices.

Conversely, vertical integration can lower costs for a firm if there are efficiencies from producing upstream and downstream items together rather than separately. Microsoft likely realises cost efficiencies in jointly producing its Windows operating system and its Office suite of software products. In acquiring Motorola, Google might (like Apple does) be able to realise economies by joint production of hardware, operating systems and key applications.

Vertical integration can also be motivated by high costs involved in transacting with independent firms. These are the costs incurred in negotiating and enforcing contracts between firms, which might in large part be avoided by internal supply. These include the possibility of 'hold-ups' in the contracting process. As an example of the latter, a platform supplier might face the prospect of an application developer trying to increase its own profits by withholding supply of an update of a successful application until a lower price for access to the platform were offered. The developer might also threaten to offer the application exclusively to another platform. Buying the application, like Apple has done for some of its more successful apps, can circumvent such problems.

Finally, a firm may have valuable private information that it is unwilling to share with independent firms, upstream or downstream. This might be to avoid the possibility of the information being used to compete against it. An independent application developer could, for example, use the experience gained in using a platform to develop its own platform. Likewise, an independent platform provider could use data about the end-user take up of an independent application to target these end users with its own superior application.

Ultimately, a firm's decision on whether it will be less costly to be vertically integrated or to use the market to undertake particular activities will depend on balancing these various factors. Nevertheless, even if there is an overall cost advantage from not integrating, a firm may still do so because it believes it can make higher profits by restricting competition upstream or downstream or both. This reason will, however, depend on the particular market circumstances a firm is faced with. It is also why competition authorities might take an interest in these types of actions.

NOT BUYING IT?

Another risk for firms in the communications sector that attempt to restrict access via vertical integration or other strategies is that their customers may strongly value choice and dislike being locked out of particular devices, platforms or applications. This, for example, could be a problem for Google if it were to prevent non-Google applications from being used on Motorola handsets or if it

were to cease to allow Google-owned platforms or applications to be used on competitors' mobile devices as either a pro-competitive or anti-competitive business strategy.

Such strategies may ultimately prompt customers to seek out alternatives or even develop new ones of their own. The rapidly changing technology and tastes in the sector means that new devices, platforms and applications can emerge quickly if the existing ones do not fully cater for customer needs or preferences. The rapid loss of Nokia's market share in mobile phone sales, attributed to its slowness in developing a touchscreen smartphone, is a case in point.

Despite this, customers usually have good reasons to prefer the most popular devices, platforms and applications (or ones that are compatible with these). Therefore it can be hard to channel them from the most popular products once these are established. This has been revealed in the recent difficulties of other mobile device manufacturers to compete with Apple's iPhones in some national markets.

Other customers might prefer to use niche devices, applications and platforms. Such customers will be resentful if their favoured products are no longer made available. Given the extremely widespread use of Google applications across various devices at present, Google might have little to gain by trying to restrict these to Motorola devices.

As these examples show, attempts to restrict customers to a particular device, platform or application can easily undermine a firm's customer base, and might not be a successful long-term strategy. A strategy of restriction will be easier where customers have few or no alternatives to choose from, but firms may not be able to rely on this remaining the case, and such a strategy could instead accelerate the development of alternatives. Hence, it is likely that Google will keep supplying its operating systems and applications to other device manufacturers, and these manufactures will be happy to continue to demand them.

CONCLUSION

Economics provides a range of reasons for expecting that firms may incur lower costs and higher profits by remaining separate or vertically integrating. Nevertheless, even if there are efficiencies to be gained from remaining separate, firms may seek to engage in arrangements that restrict competition and enable them to charge higher prices. Firms supplying devices, platforms and applications in the communications sector have employed a variety of vertical arrangements in an attempt to stay ahead of competitors in sales and profitability. However, consumer savvy and the rapidly evolving nature of technology in the industry may make many of these attempts at best transitory.

Frontier Economics advises private and government clients on economic and competition issues in the communications and other industry sectors.

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