

Helping Platform Businesses Thrive

SMU Assistant Professor Lin Mei studies the economics of platform-based business models such as online marketplaces.

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AsianScientist (May 31, 2016) - By Sim Shuzhen - Some of us may remember Amazon.com's beginnings as a humble online bookstore. From selling books directly to buyers, the company has since evolved into a hugely successful platform-based business. Among other services, it now hosts third-party sellers and buyers in one of the Internet's largest online marketplaces.

Traditional businesses make products and sell them to customers. Platform-based businesses, on the other hand, allow their users to create and consume products and services. We interact with such businesses on a daily basis: Apple and Android app stores, online marketplaces such as Amazon.com and Lazada, and ride-sourcing services such as Uber and Grab, to name a few.

"Without a doubt, consumers enjoy increased convenience, as platforms bring to them a broad selection of goods and services. Meanwhile, many business opportunities are created on these platforms as well," says Assistant Professor Lin Mei of the Singapore Management University (SMU) School of Information Systems, who studies the economics of platform-based business models.

Through providing guidance on how online marketplaces should price entry fees for buyers and sellers, and how businesses can manage sellers with highly variable levels of experience and expertise, she hopes to help platform owners better manage their enterprises.

The complex economics of platform pricing

Many factors influence economic transactions between buyers and sellers—the two major groups of users in an online marketplace. For example, competition between sellers, who may vary considerably in terms of the type and quality of goods they offer, affects price. Buyers, meanwhile, usually make purchasing decisions based on individual preferences, and by comparing between sellers.

Given these complicated interactions, what strategies should businesses adopt when setting entry fees for buyers and sellers using their platforms?

To address this question, Professor Lin builds economic models that capture the complex interactions between users, and uses them to link these interactions to the platform's pricing decisions.

“In the model, all the sellers make strategic pricing decisions of their goods under the market forces, and buyers choose sellers accordingly,” she explains.

“Moreover, given that the platform derives revenue from the transactions, interactions between sellers and buyers are closely linked to the platform's payoff and pricing decisions.”

Professor Lin's research suggests that in a more liquid market—characterised by factors such as a high number of potential sellers and buyers, a lower sunk cost to adopting the platform, high overall product quality among sellers, and strong buyer preference for product type—platforms would do well to adopt a lower seller-side fee and a higher buyer-side fee.

“In this scenario, the platform should reduce the seller-side fee, which can introduce a large number of sellers into the market,” she says. “This in turn increases the value proposition to the buyer side; therefore, the buyer-side fee can be raised.”

When the market is less liquid, however, platforms should take the opposite tack: lower the buyer-side fee and raise the seller-side fee. This provides an incentive for buyers to participate, but does not deter sellers, who face weaker competition in a less liquid market, suggesting more opportunities for profits.

Professor Lin's findings, published in 2015 in the article, “Endogenous Network Effects, Platform Pricing and Market Liquidity”, have immediate applications for platform-based businesses in the real world. Surveys of market size and buyer preferences and estimations of the sunk cost of adopting a platform can guide platform owners on their pricing strategies, she says.

The future of platform-based businesses

In her future research, Professor Lin is interested in exploring how platforms compete with each other.

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“As more businesses start to understand the advantages of platforms, we are seeing a rise in the number of platform-based businesses, which intensifies rivalry in the platform markets,” she elaborates.

“Therefore, it would be important to understand the dynamics between the competing platforms and the potential market outcomes.”

In a competitive environment, how platforms manage their users will be key to their success, she says. Platforms that have managed to build up large networks of diverse users have a strong advantage for future growth. Apple is a good example of this—its huge App Store and millions of iPhone users help to attract still more app developers and users to the platform.

Other platforms, such as Microsoft and its Windows operating system, have gained monopoly power, making it difficult for competitors to enter the market.

To take advantage of these network effects, Professor Lin points out that platforms must continue to develop innovative ways of facilitating interactions between user groups. Facebook, for example, must find ways to manage the synergy between users and advertisers. Keeping users on the page for longer periods of time is important for generating advertising revenue, but ads in turn must be effectively targeted, and displayed in a manner that does not turn users off.

The biggest challenge in her research, Professor Lin notes, is the complexity of the problem at hand. Platforms are inherently more difficult to analyse due to the multiplicity of user groups involved, and the resulting interactions between and within these groups.

“The impact of any element of the platform can be manifold,” she shares. “This calls for innovation in the research methodology used to solve such complicated problems, regardless of whether the research is model- or data-focused.”

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