

Summary Review of Studies of Homing Strategies in the Fields of Strategy, Economics, Marketing, and Information Systems

Title	Journal	Year	Authors	Setting	Variables	Key takeaways	Addresses a shock	Multihoming
Technological change in markets with network externalities	International Journal of Industrial Organization	1995	Paul W.J. De Bijl, Sanjeev Goyal			<ul style="list-style-type: none"> • Decisions on innovation often have implications for compatibility. • Firms in a dynamic duopoly market have to decide on the nature of the successor technology and compete in prices after they make their technological choices. • Equilibria in markets with only homogeneous consumers may result in excess innovation compared to what is socially desirable due to the presence of network externalities. • In markets with heterogeneous consumers, sufficient conditions for the coexistence of two incompatible networks are derived, which may exhibit excessive or too little innovation and technology-product variety relative to the social optimum. 	Not really, but discusses technological change	No
Technology revolutions in the presence of network externalities	International Journal of Industrial Organization	1996	Oz Shy			<ul style="list-style-type: none"> • Consumer preferences, including the degree of substitution between quality of technology and network size, play a significant role in the adoption of new technologies. • Other important factors include technology growth rate, consumer population size, and the degree of compatibility between new and old technologies. • New technologies are adopted more frequently when consumers treat quality and network size as more substitutable, as an increase in quality alone can still provide a significant utility increase. • The degree of substitution 	Not really, but discusses technology revolutions	No

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						<p>between quality and network size can be interpreted as the flexibility of a user or firm to shift tasks from decentralized to centralized work in exchange for better hardware performance.</p> <ul style="list-style-type: none"> The paper's model focuses on the frequency of repeated technology adoption and how changing consumer preferences affect the speed of adopting new technologies. 		
Platform Owner Entry and Innovation in Complementary Markets: Evidence from Intel	Journal of Economics & Management Strategy	2007	Annabelle Gawer, Rebecca Henderson	Intel's Entry Decisions in Complementary Markets Across 14 Years In The Personal Computer Industry.	DV: Entry into complementary markets; IVs: Organizational structure, Complementary market potential, Interface evolution, Strategic importance of connector markets, Innovation incentives	<ul style="list-style-type: none"> Intel enters complementary markets based on capabilities and market potential. It tends to enter "connector" markets, which affect platform transitions. Organizational structures like independent units are used to balance profit maximization and encouraging complementors' innovation. Intel actively shares IP and subsidizes third-party entry to maintain innovation incentives. 	No	No
Software exclusivity and the scope of indirect network effects in the U.S. home video game market	International Journal of Industrial Organization	2009	Kenneth S. Corts, Mara Lederman	Video Game Market	Demand estimations: Hardware demand, software supply; Console characteristics	<ul style="list-style-type: none"> Game publishers prefer to develop games for a console with a large base of users, leading to a positive relationship between the number of users of a console and its value. Changes in the degree of software exclusivity have led to the existence of indirect network effects between users of competing platforms in the same technological generation. Non-exclusive software allows software providers to spread the fixed costs of software development over multiple platforms, 	No	Yes

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Big Losses in Ecosystem Niches: How Core Firm Decisions Drive Complementary Product Shakeouts	Strategic Management Journal	2009	Lamar Pierce	Automotive Leasing Market	DVs: The residual value forecasting error as a percentage of the new vehicle price; The absolute value of the residual value error. IVs: whether a major platform design occurred; The Consumer Reports durability score (1 to 5); The average model family market share in its vehicle segment; The ratio of captive leases to total production; The average dealer profit margin for this model.	<p>affecting the supply of games for any particular platform based on the number of users of other platforms on which those games could be released.</p> <ul style="list-style-type: none"> The paper estimates a relationship between hardware demand and software availability and the relationship between software availability and the installed base of hardware, finding the existence of both a significant platform-level and an increasingly important generation-level network effect. The results provide evidence as to why the home video game market has become less prone to tipping towards a single platform over time. The literature has not empirically examined how decisions by one large firm can drive financial losses and shakeouts in complementary markets even when technological change is minimal. This study identifies how the entry and pricing decisions of one core firm can drive exit by complementary firms in a business ecosystem. Large networks of firms can revolve around corporations, both through formal contracting and symbiotic relationships. The decisions of the ecosystem's core firm, as well as exogenous economic and technological shocks, can have wide-ranging implications throughout the network of firms. The frequency and severity of product changes by the core firm 	Not really but discusses how core firm decisions can create market turbulence	

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Survival in markets with network effects: Product compatibility and order-of-entry effects	Journal of Marketing	2010	Qi Wang, Yubo Chen, Jinhong Xie	Multiple	DV: Survival; Ivs: cross-generation incompatibility, within-generation incompatibility, whether a firm is a pioneer, strength of NE,	<p>increase risks for complementors through reduced compatibility, which reduces the value of the complementary product to the customer.</p> <ul style="list-style-type: none"> This study develops hypotheses predicting which complementary niche markets will be more susceptible to shakeouts and applies these hypotheses to brand-based ecosystems in the automotive industry, where networks of suppliers, customers, and complementors surround large car manufacturers. The order-of-entry effect plays an important role in firms' ability to survive in markets with network effects (NE) Pioneer survival (dis)advantage is contingent on product (in)compatibility, which is an essential product characteristic in markets with NE. The study investigates the joint effect of NE and the two types of incompatibility (cross-generation and within-generation) on pioneer survival advantage. The study finds a significant interaction effect between NE and the two types of incompatibility, with opposite effects in markets with weak NE and weaker effects in markets with strong NE. The study finds that pioneers can experience a survival advantage relative to early followers under certain compatibility conditions in markets with both weak and strong NE. 	No	Discusses product compatibility, which is related to multihoming

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Multihoming in Two-Sided Markets: An Empirical Inquiry in the Video Game Console Industry	Journal of Marketing	2011	Vardit Landsman, Stefan Stremersch	Video Game Market		<ul style="list-style-type: none"> Multihoming, the choice of an agent in a user network to use more than one platform, is an important decision for sellers in two-sided markets. The article examines what conditions affect seller-level multihoming decisions on a given platform and whether and under what conditions platform-level multihoming affects the sales of the platform, explicitly controlling for the number of applications sold for the platform. The empirical findings suggest that the negative effect of platform-level multihoming on platform sales is larger than the positive effect of the number of applications on platform sales. The authors also find that a platform's age and market share drive the extent of seller-level multihoming on that platform. 	No	Yes
Evolutionary Competition in Platform Ecosystems	Information Systems Research	2015	Amrit Tiwana	Browser Add-Ons	DV: Market Performance; Ivs: The pace of extension evolution, input control, extension modularization	<ul style="list-style-type: none"> Platform owners organize ecosystems to foster innovation by diverse outsiders, who can contribute a steady stream of innovations that a standalone rival would be hard pressed to match. Modular platform architectures permit the partitioning of innovation among many firms, but some control by the platform owner is needed to ensure that extensions interoperate with the platform in ways that advance the platform's interests. Input control, or screening which extensions are allowed into an ecosystem, is a widespread control mechanism used by platform owners 	No	No

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Platform Desertion by App Developers	Journal of Management Information Systems	2015	Amrit Tiwana	Browser Add-Ons	DV: platform desertion, App-specific coordination costs; Ivs: App-specific coordination costs, App decoupling; Delegation of app decision rights	<p>but is completely overlooked in information systems research.</p> <ul style="list-style-type: none"> The interplay between an extension's modularization and input control exercised over it by the platform owner shapes its market performance through evolutionary competition, as competition among extensions over a platform's end users unfolds through their perpetual evolution to better meet users' needs. Using econometric analyses of primary and archival data spanning five years from 342 platform extensions in Mozilla's Firefox browser ecosystem, the authors show that the complementarity between extension modularization and input control enhances an extension's market performance by accelerating its evolution. Coordination costs borne by app developers can be a problem in platform ecosystems, which potentially span millions of asynchronously evolving apps. Platform owners attempt to reduce coordination costs through modular architectures and by distributing authority over app design decisions to app developers. This study focuses on the interplay between an app's microarchitecture and app decision rights, and how it influences coordination costs borne by an app's developer, which are associated with platform desertion. The distinctive insight of the study is that delegating app-specific decisions to app developers weakens 	No	No

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Demand Heterogeneity, Inframarginal Multihoming, and Platform Market Stability: Mobile Apps	NBER Working Paper	2015	Timothy Bresnahan, Joe Orsini, Pai-Ling Yin	Mobile App Platforms (Ios, Android)	DV: Platform stability (market share between platforms); IV: App attractiveness, number of users on each platform; Multihoming behavior: Whether apps are available on both platforms or just one; Platform size: Number of users on iOS and Android in each country.	<p>the coordination cost-reducing benefits of one microarchitectural property of an app (decoupling) but amplifies those of the other (interface standardization)</p> <ul style="list-style-type: none"> Stable equilibrium between iOS and Android in the U.S. market due to high-demand apps multihoming. Smaller platforms tip out because they cannot attract inframarginal multihomers. Stability arises from the fact that multihoming apps are attractive enough to operate on multiple platforms, despite changes in user numbers. 	Not explicitly addressed, though it discusses market evolution	Yes
The Double-Edged Sword of Backward Compatibility: The Adoption of Multigenerational Platforms in the Presence of Intergenerational Services	Information Systems Research	2016	Il-Horn Hann, Byungwan Koh, Marius F. Niculescu	Mobile Internet Platform	DV: Installed base; IVs: Backward Compatibility	<ul style="list-style-type: none"> Many IT platforms are being released in a multigenerational fashion, with overlapping generations and intervals between releases decreasing. Backward compatibility of platforms with respect to services creates additional value for new generations by carrying over the value of earlier generations' complementary services. Backward compatibility, along with price markdowns for older generations, may expand the market and bring in some potential adopters who did not deem any of the platform generations worthwhile in isolation before. Backward compatibility for services allows for more complex interactions between adopters of 	No	Discusses backward compatibility, which is related to multihoming

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Equilibrium Innovation Ecosystems: The Dark Side of Collaborating with Complementors	Management Science	2016	Andrea Mantovani, Francisco Ruiz-Aliseda	Firms In High-Tech Industries (E.G., Consumer Electronics, Telecommunications) That Collaborate On Products Designed To Complement Each Other.	DVs Firm Profits: The primary outcome of interest is the profit earned by firms after collaborating and investing in their respective complementary products. System Quality: The overall quality of the system that results from the interoperability between complementary products. IVs: Interoperability Investments: The level of investment firms make to ensure that their products work well together. Price Competition: The intensity of competition in terms of pricing strategies between firms that	different platform generations and may be enough to lengthen the life cycle of the earlier generation platforms. • The impact of backward compatibility on newer platform adoption has been explored previously, but the "lease on life" effect that backward compatibility gives to the older platform has not been analyzed in depth before. Collaboration between firms producing complementary products can lead to greater value creation but not necessarily greater value capture. Firms end up in a prisoner's dilemma where increased investment in quality does not translate into higher profits. Open interfaces in highly competitive markets may lead to overinvestment, reducing firm profitability. In some cases, exclusive collaboration can lead to market dominance, but it can also result in asymmetric outcomes.	No	No

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Sustaining Superior Performance in Business Ecosystems: Evidence from Application Software Developers in the iOS and Android Smartphone Ecosystems	Organization Science	2017	Rahul Kapoor, Shiva Agarwal	Mobile Phone App Market	produce complementary goods. Collaboration Links: The extent and nature of collaboration between firms (e.g., open vs. closed system interfaces). Product Differentiation: The extent to which products differ from one another in the market. Market Structure: Whether the market allows for open interfaces or closed systems, which influences competition and collaboration dynamics. DV: Staying in the list of Top 500 apps by revenue; IVs: Ecosystem Complexity; Ecosystem Experience; Platform Transition	<ul style="list-style-type: none"> Focuses on the performance of complementor firms within a platform-based ecosystem, particularly on the sustainability of superior performance. Offers a perspective of complementors' ecosystem-level interdependencies that incorporates both the structural and evolutionary features of the ecosystem and shows that such a perspective is useful in explaining performance dynamics among complementors within an ecosystem. These arguments are in line with the evolutionary economics perspective of firms. 	Yes, discusses platform transitions, which could be considered a form of shock	Implicitly addressed through the study of two ecosystems (iOS and Android)

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Repositioning and Cost-Cutting: The Impact of Competition on Platform Strategies	Strategy Science	2017	Robert Seamans, Feng Zhu	U.S. Newspaper Industry	DV: Newspaper Differentiation; whether a firm adopts cost-cutting strategy, firm survival; Ivs: Craigslist's Entry, Reader Heterogeneity,	<ul style="list-style-type: none"> Platforms need to consider the links between the various sides of their market carefully when changing their strategy, as any strategic change on one side will necessitate a strategic change on the other sides. Platforms may respond to competition by changing strategy on both the subscriber and the advertiser sides through repositioning and cost-cutting strategies. The extent to which firms reposition depends on their external demand conditions, and when repositioning is difficult, firms will turn to cost-cutting. Firms will be more likely to recognize and respond to competition if they have sister firms that have already done so. Failure to design the right response will harm a platform's competitive viability. 	Yes, addresses the entry of Craigslist as a competitive shock (not a tech shock though)	No
Platform Integration and Demand Spillovers in Complementary Markets: Evidence from Facebook's Integration of Instagram	Management Science	2017	Zhuoxin Li, Ashish Agarwal	Facebook, Instagram	DV: Demand; IVs: Instagram integration, user base size	<ul style="list-style-type: none"> Facebook's integration of Instagram significantly increased Instagram's demand and had a positive spillover effect on large third-party apps while negatively impacting small third-party apps. Overall demand for the photo-sharing ecosystem increased after Instagram's integration, showing the potential for platform integration to benefit the ecosystem overall. 	Yes, addresses platform integration as a shock	No
Platform Ecosystems: How Developers Invert the Firm	Management of Information Systems Quarterly	2017	Geoffrey Parker, Marshall Van Alstyne, Xiaoyue Jiang	Apple, Google, Microsoft	IV: Developer ecosystems, Code spillovers, Platform openness; DV: Innovation rate, Profitability	<p>Developers drive platform success: External developer ecosystems are critical for platform growth, leading firms to shift value creation outside the firm.</p> <p>Open innovation benefits: Firms that embrace open contracts with external developers can innovate faster and</p>	No	Yes

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						<p>more profitably compared to relying solely on internal development.</p> <p>Spillover effects: Reusable code and knowledge spillovers from developers enhance innovation, particularly in digital platforms where replication is nearly costless.</p> <p>Balancing openness and control: Platform firms must carefully manage how much of the platform to open to developers to maximize innovation while retaining control over core assets.</p> <p>Platform competition: Increased competition between platforms pushes firms to open more resources to developers, accelerating the pace of innovation.</p> <p>Risk and rewards of openness: Firms that allow more developers and take on higher innovation risks can achieve greater profitability through spillovers and faster growth.</p>		
Platform Structures, Homing Preferences, and Homophilous Propensities in Online Social Networks	Journal of Management Information Systems	2017	Hyeokkoo Eric Kwon, Wonseok Oh, Taekyung Kim	Social Networking Services (Facebook, Twitter, KAKAO Story) In South Korea With Panel Data On Over 10,000 Users Over 134 Days.	DV: Frequency of app usage, Number of active users in similar and different demographic groups; IVs: Platform type (open/closed), Homophily, Symmetry	Closed platforms and symmetric networks exhibit stronger homophily, while asymmetric and multi-homing environments reduce homophilous tendencies.	No	Yes
Disruption in Platform-Based Ecosystems	Journal of Management Studies	2018	Hakan Ozalp, Carmelo Cennamo and Annabelle Gawer	Video Game Market		<ul style="list-style-type: none"> Platform-based ecosystems have a specific structure of economic relationships among interdependent firms, which depart from traditional contexts in which disruptive-innovation theory was originally developed. Generational technological transitions in platform ecosystems can 	Not explicitly addressed, though it discusses platform evolution and technological transition	Yes

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Demand Heterogeneity in Platform Markets: Implications for Complementors	Organization Science	2018	Joost Rietveld, J. P. Eggers	Video Game Market	DV: Sales; IVs: Platform diffusion; Next generation installed base; whether game is based on a new IP	<p>create disruptive tensions that can affect both incumbents and complement providers.</p> <ul style="list-style-type: none"> Incumbent platform owners face a trade-off between advancing their next-gen platform to stay ahead of competition and securing continued support from complementors to produce the next-gen complements. Incumbents' next-gen platforms with the greatest technological capabilities can increase development difficulty for complementors, which can lead to developers defecting to rival, less challenging platforms. Platform firms can use different actions to manage this trade-off, including internal development of complements and sharing complement development knowledge with independent developers to ease development challenges on the platform. The primary theoretical argument is that systematic differences between consumers who adopt the platform at different points in the platform's evolution importantly affect competition between complementors in ways that produce counterintuitive dynamics. Despite the increase in the potential user pool as the platform evolves, video games launched later in the platform life cycle realize lower unit sales than those launched earlier, and this negative performance effect is stronger for games based on novel intellectual property and that the gap between popular and less popular 	No	Yes

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Platform Architecture and Quality Trade-offs of Multihoming Complements	Information Systems Research	2018	Carmelo Cennamo, Hakan Ozalp, Tobias Kretschmer	Video Game Market	DV: Title-Platform Quality; Ivs: Delayed release, platform complexity	<p>complements widens as more risk-averse late adopters move into the platform.</p> <ul style="list-style-type: none"> Complements must be tailored to a platform's core technological functions and interface specifications to take full advantage of its performance, making it easier or more difficult and costly to develop complements for it. Multihoming complements face two trade-offs from cospecialized design of their complements: lower-quality performance on platforms they are subsequently multihomed to, and lower-quality performance on more complex platforms compared to less complex platforms. The negative effect of a delay is less severe for games on complex platforms. The true costs of multihoming are determined indirectly by platform owners via technological architecture, and thus possibly heterogeneous across platforms, which has important implications for platform evolution and competitive performance. The quality and value of the same complement can differ across platforms, and these differences are not random. 	No	Yes
Exploiting and Defending Open Digital Platforms with Boundary Resources: Android's Five Platform Forks	Information Systems Research	2018	Kimmo Karhu, Robin Gustafsson, Kalle Lyytinen	Android Digital Platform	DV: Platform forking outcomes; IVs: Boundary resources, access openness, resource openness, platform control mechanisms	<ul style="list-style-type: none"> Explores how openness in digital platforms can lead to competitive threats via platform forking. Forking allows competitors to leverage Android's core to create rival platforms like Amazon Fire OS. Google used defensive strategies, including boundary resources like 	No direct shock, but the paper addresses strategic challenges and responses due to the	Yes

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Dynamic and integrative capabilities for profiting from innovation in digital platform-based ecosystems	Research Policy	2018	Constance E. Helfat, Ruth S. Raubitschek			APIs and licensing agreements, to curb exploitation and retain control. Dynamic capabilities, especially integrative capabilities, are critical for platform leaders to design and manage ecosystems and capture value from innovation. Innovation and sensing capabilities help platform leaders to create new products, while integrative capabilities aid in orchestrating the ecosystem and ensuring value capture.	threat of platform exploitation, at the platform level though. No	No
Optimal distinctiveness, strategic categorization, and product market entry on the Google Play app platform	Strategic Management Journal	2019	Matthew A. Barlow, J. Cameron Verhaal, Ryan W. Angus	Mobile Phone App Market	DV: Review count as a performance of app performance; IVs: Prototype Similarity measures how similar the focal app in our sample is compared to the representative or the prototypical app in the focal app's category; Exemplar Similarity measures how similar the description of the focal app is to its nearest neighbor among its category's list of the top 100 most installed apps (the exemplar apps) in the month prior to the app being introduced	<ul style="list-style-type: none"> Balancing conformity with differentiation is a key challenge for organizations in achieving optimal distinctiveness. New market entrants may struggle to influence how they are perceived within a category, but can engage in strategic categorization to shape their strategic fit. Category prototypes and exemplars are two interdependent categorical schemas that organizations can align themselves with or differentiate themselves from to achieve optimal distinctiveness. In two-sided platform markets, strategic alignment with the category prototype hurts market performance, while conforming with a category exemplar leads to higher performance. App developers can more than double their expected performance by crafting a text description that is highly similar to a 	No	No

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Threat of platform-owner entry and complementor responses: Evidence from the mobile app market	Strategic Management Journal	2019	Wen Wen, Feng Zhu	Mobile Phone App Market	DV: Innovation effort Ivs: Whether a complementor is under entry threat, Whether a complementor is under actual entry	category exemplar and low in similarity to the category prototype. <ul style="list-style-type: none"> In the context of platform ecosystems, complementors are small firms that offer complementary products or services on the platform, and they are concerned about platform owners competing with them. The literature on this tension is still nascent, and this paper explores complementors' reactions to the threat of platform-owner entry into their product spaces. The study focuses on the mobile app market, and the empirical analysis finds that complementors reallocate innovation efforts from affected areas to unaffected areas when faced with entry threats. The response varies depending on the popularity of the affected product, and complementors may increase innovation on affected products if they have a large user base. 	No	Yes, addresses the threat of platform-owner entry as a shock
Product Quality and Entering Through Tying: Experimental Evidence	Management Science	2019	Hyunjin Kim, Michael Luca	Online Platforms (Google, Yelp, Tripadvisor)	DV: User click behavior, stated preference; IVs: Type of reviews shown (Google vs. competitors), Information snippets (included vs. excluded), Number of reviews displayed	Users prefer reviews that include competitors' results over those that exclude them. Google's exclusion of competitor reviews helped it grow its own reviews platform, even though users found its reviews less useful. Tying strategies can facilitate market entry with lower-quality products by leveraging dominant positions.	No	No
A Potato Salad with a Lemon Twist: Using a Supply-Side Shock to Study the Impact of Opportunistic	Management of Information Systems Quarterly	2019	Hilah Geva, Ohad Barzilay, Gal Oestreicher-Singer	Crowdfunding Campaigns On Kickstarter, Especially After A Viral Event In 2014	DV: Likelihood of success, Amount of money raised; IV: Campaign quality, Exogenous shock (supply-side),	<ul style="list-style-type: none"> An increase in low-quality supply significantly decreased average campaign performance, both in terms of money raised and success rates. High-quality campaigns were less affected than low-quality ones. 	Yes, a supply-side shock in the form of viral media coverage	No

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Behavior on Crowdfunding Platforms					Opportunistic behavior	<ul style="list-style-type: none"> Signals of campaign quality (e.g., investment in presentation) mitigate the negative effects of a market flooded with "lemons." 	triggering an influx of low-quality campaigns.	
Complementors' engagement in an ecosystem: A study of publishers' e-book offerings on Amazon Kindle	Strategic Management Journal	2020	Richard D. Wang, Cameron D. Miller	E-Books Market	DV: Product Release, Ivs: demand, competitiveness, importance	<ul style="list-style-type: none"> Content suppliers joining a digital platform can strengthen the platform's ability to dominate the downstream market and gain bargaining power over the upstream content suppliers. Content suppliers protect their bargaining power by preserving alternative channels as economically viable outside options and limiting the extent of their engagement with the digital platform while maintaining their relationships with the alternative channels. Content suppliers calibrate their engagement with the digital platform through product offering decisions, selectively choosing which products to offer and which products to withhold. Publishers that participate in Amazon's Kindle e-book platform offer only about half of their printed book portfolios in their e-book portfolios, indicating that product decisions for Kindle e-books are distinct from those for printed books. Large publishers make product decisions that are more protective of the printed book channel and less conducive to Kindle's success compared to small publishers. Product offerings are a strategic mechanism that complementors employ to manage their relationships with partners that have strong network effects potentials. 	No	Implicitly addressed through discussion of publishers' engagement with multiple platforms

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Impact of Platform Owner's Entry on Third-Party Stores	Information Systems Research	2020	Shu He, Jing Peng, Jianbin Li, Liping Xu	A Chinese E-Commerce Platform Supporting Both Online And Offline Transactions	DV: Demand of third-party stores; IVs: Platform entry, Disintermediation strategies	<ul style="list-style-type: none"> Platform owner's entry significantly decreases offline demand of third-party stores, but online demand remains unaffected. Defensive disintermediation strategies are adopted by third-party stores to retain offline customers. 	Yes, platform entry	No
Platform Competition with Multihoming on Both Sides: Subsidize or Not?	Management Science	2020	Yannis Bakos, Hanna Halaburda			<p>When multihoming occurs on both sides, there is no strategic interdependence between the two sides of the same platform, reducing the need for subsidies.</p> <p>The traditional strategy of subsidizing one side is limited or incorrect in markets where multihoming is prevalent on both sides.</p> <p>Full multihoming results in reduced strategic leverage for cross-subsidization, and price-setting should focus more on competitor platform pricing rather than internal cross-subsidies.</p> <p>The analysis is applicable to many modern platform-based industries, such as ridesharing and digital marketplaces.</p>	No	
Interfirm Exchange and Innovation in Platform Ecosystems: Evidence from Apple's Worldwide Developers Conference	Management Science	2020	Jens Foerderer	Ios App Developers Who Attended The 2016 WWDC. Panel Data On 4,826 Developers From April To December 2016.	IVs: WWDC attendance, developer age, size; DVs: Major app updates, app ratings, new feature adoption, app integrations	<p>WWDC attendance positively impacts innovation, especially for larger and older developers, leading to more app updates and higher user ratings.</p> <p>Learning and collaboration are key mechanisms.</p>	No	No
In search of complementarities within and across platform ecosystems: Complementors'	Long Range Planning	2021	Mahdi Tavalaei, Carmelo Cennamo	Mobile Phone App Market	DV: firm's aggregate ranking in a given platform IVs: wheter a firm operates in a single platform ecosystem, wheter a	<ul style="list-style-type: none"> Complementors face a strategic choice of specializing in one particular platform ecosystem or leveraging multiple platforms, and there is a trade-off between scale and scope. 	No	Yes

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relative standing and performance in mobile apps ecosystems					firm operates in a single platform category	<ul style="list-style-type: none"> Specializing in one product category and one platform ecosystem or specializing in one platform ecosystem and expanding product offerings across multiple categories is associated with higher market performance. 		
Information Transparency, Multihoming, and Platform Competition: A Natural Experiment in the Daily Deals Market	Management Science	2021	Hui Li, Feng Zhu	Daily Deals Platforms	DV: Sales; Ivs: Multihoming	<ul style="list-style-type: none"> When multihoming takes place on both sides of the market, reducing multihoming on one side may not be very effective in reducing competitors' market shares because it induces a seesaw effect. Platforms need to find ways to reduce multihoming on both sides of the market simultaneously to gain market dominance. Information transparency can have a wide range of effects on consumers, rival firms, and the industry, both theoretically and empirically. Platforms in the daily deals market can influence multihoming tendencies on both the merchant and consumer sides by limiting information transparency. Limiting information transparency can reduce rivals' multihoming on the merchant side and increase deal variety in the market, but it may also increase consumer-side multihoming. 	Yes, addresses a policy change as a shock to the market	Yes
Market Orchestrators: The Effects of Certification on Platforms and Their Complementors	Strategy Science	2021	Joost Rietveld, Robert Seamans, Katia Meggiorin	Microfinance Platform (Kiva)	DV: Loan portfolio composition, performance metrics (e.g., number of lenders, total funding); IVs: Certification,	<ul style="list-style-type: none"> Certified microfinance institutions (MFIs) reoriented their loan portfolios to align with Kiva's certification program. MFIs that aligned their portfolios with the certified criteria attracted more lenders and secured higher funding per loan. 	Yes, the paper does address a shock. The introduction of the Kiva Social Performance	No

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					portfolio concentration	<ul style="list-style-type: none"> Complementors with higher portfolio concentration found it harder to adjust their portfolios. Certification in multiple dimensions reduced the extent of reorientation, suggesting that complementors are constrained by too many certifications. 	Badges in December 2011 was an unexpected and unanticipated shock for the microfinance institutions (MFIs) on the platform.	
Value Creation Tradeoff in Business Ecosystems: Leveraging Complementarities While Managing Interdependencies	Organization Science	2022	Shiva Agarwal, Rahul Kapoor	Mobile Phone App Market	DV: Whether the focal app made it to the Top 500 apps list by revenue; IVs: Apps' connections with complementary technologies provided by other firms (e.g., Facebook, Dropbox) as a measure of Complementary Technologies, whether these technologies are specialized to the iOS ecosystem or not as a measure of Ecosystem-Specific Complementary Technologies, the number of months between the observation month and the month in which the latest generation of the iOS was launched as a measure of architectural newness	<ul style="list-style-type: none"> This article discusses the role of complementary technologies in shaping the commercialization success of innovations in business ecosystems. The authors distinguish between ecosystem-specific and ecosystem-generic complementary technologies and argue that the former tend to be better aligned to the focal ecosystem's value proposition and facilitate the generation of nongeneric complementarities. However, they also subject the innovation to high levels of technological interdependencies, which can limit its value creation as the underlying technological architecture evolves. The greater number of connections with complementary technologies available in an ecosystem is generally associated with a greater likelihood of the focal innovation's commercialization success, particularly for connections with ecosystem-specific complementary technologies. However, the positive effect of connections with complementary 	Not explicitly addressed, though it discusses architectural changes	Implicitly addressed through discussion of ecosystem-specific vs. ecosystem-generic complementary technologies

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Platform Governance Design in Platform Ecosystems: Implications for Complementors' Multihoming Decision	Journal of Management	2022	Liang Chen, Jingtao Yi, Sali Li, Tony W. Tong	Mobile Phone App Market	DV: Multihoming; Ivs: Ecosystem Complexity, Ecosystem Experience, Complement Modularity	<p>technologies is weakened by the architectural newness of the ecosystem, and much more so for connections with ecosystem-specific complementary technologies.</p> <ul style="list-style-type: none"> The study in question addresses the research question of how platform governance may create unintended costs for complementors, specifically focusing on the iOS and Android-based smartphone ecosystems. The complexity of a new platform ecosystem relative to the original ecosystem where the app has been launched reduces the likelihood of the app's multihoming, and experience with the new ecosystem and the extent to which app development is modularized attenuate this negative effect. 	No	Yes
Platform Governance Matters: How platform gatekeeping affects knowledge sharing among complementors	Strategic Management Journal	2022	Yuchen Zhang, Jingjing Li, Tony W. Tong		<p>DV: The number of posts (questions and answers) made by app developers on StackOverflow. This serves as a measure of knowledge sharing activity.</p> <p>iOS (Platform): A dummy variable indicating whether a developer is on the iOS platform (value = 1) or the Android platform (value = 0). This helps differentiate between the treatment group (iOS developers) and the control group</p>	<p>Platform gatekeeping reduces competition among complementors and increases knowledge sharing. A lapse in gatekeeping (like the iOS 7 jailbreak) reduced knowledge sharing, particularly for developers with routine knowledge.</p>	Yes, the iOS 7 jailbreak is used as an exogenous shock to examine the impact of gatekeeping on knowledge sharing.	No

Title	Journal	Year	Authors	Setting	Variables	Key takeaways	Addresses a shock	Multihoming
					<p>(Android developers). After: A dummy variable indicating whether the observation is from after the iOS 7 jailbreak (value = 1) or before (value = 0). It marks the period when the lapse in gatekeeping occurred. Interaction Term (iOS * After): This interaction term captures the effect of the lapse in gatekeeping on iOS developers specifically. Knowledge Complexity: A measure of how complex the knowledge base of the developer is, calculated based on the technical interdependence among tags used by the developer on StackOverflow. Knowledge Routineness: A measure of how frequently developers use common knowledge in their app development, based on tag frequency.</p>			

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Growing platforms within platforms: How platforms manage the adoption of complementor products in the presence of network effects?	Strategic Management Journal	2023	Shiva Agarwal, Cameron D. Miller, Martin Ganco	Mobile Phone App Market	DV: Whether an app gets an Editors' Choice award; IVs: whether the app uses Apple's Game Center as measure of direct network effects, Developer market share, Developer market concentration	<ul style="list-style-type: none"> Selective product promotions through awards can be used strategically to manage adoption, and platform owners are more likely to give awards to complementor products with direct network effects, particularly those with proven track records of building an installed base. The platform owner considers both value appropriation and creation when making award decisions, and products with direct network effects from which the platform owner can appropriate more value are more likely to receive an award. 	No	No
Platform Governance in the Presence of Within-Complementor Interdependencies: Evidence from the Rideshare Industry	Management Science	2023	Hyuck David Chung, Yue Maggie Zhou, Sendil Ethiraj	Ride Sharing	DVs: Number of trips; Ivs: Lyft's Access Restriction	<ul style="list-style-type: none"> Access control is an important instrument for platform governance, but its impact on complement quantity may not be straightforward due to cross-platform economies of scope. Multi-homing is common in technological and transaction platforms, as complementors need to recoup large investments in complementor-specific resources. Restricting access on a platform reduces the market size for complementors and deprives them of potential scope economies, creating a potential cross-platform spillover effect. Empirical evidence from NYC's rideshare industry confirms the cross-platform spillover effect of restricting platform access, highlighting the importance of accounting for interdependencies across complementor activities when 	Yes, addresses platform access restriction as a shock	Yes

Title	Journal	Year	Authors	Setting	Variables	Key takeaways	Addresses a shock	Multihoming
Platform Competition with Multihoming on Both Sides: Subsidize or Not?	Management Science	2023	Yannis Bakos, Hanna Halaburda			<p>designing platform access restriction policies.</p> <ul style="list-style-type: none"> The article focuses on the interdependence between the two sides of a platform, which means that lowering the price on one side can make the platform more competitive on the other side. However, this interdependence depends on the assumption that at least one side of the platform single-homes and is reduced or even disappears when both sides of the platform multihome. The article shows that this is an important finding because as technology makes joining multiple platforms easier, participants in both sides of two-sided platforms frequently multihome. When both sides multihome, the benefit of subsidizing one side is diminished or may not be present at all, and we need to be wary of overstating the importance of the interdependence between the two sides of a platform. 	No	Yes
Competing with the platform: Complementor positioning and cross-platform response to entry	Strategic Management Journal	2024	Aldona Kapacinskaite, Ahmadreza Mostajabi	Mobile App Platforms (Apple App Store and Google Play Store)	DV: Updates, Active status, new app releases; IVs: Platform owner entry, Complementor type (specialist/generalist)	Generalist complementors shift effort away from the focal platform and towards the competing platform after platform owner entry. Specialist complementors double down on the focal platform.	Yes (platform owner entry)	Yes
Porting learning from interdependencies back home: Performance implications of multihoming for complementors in	Strategic Management Journal	2024	Francisco Polidoro Jr., Wei Yang	Open-Source Software Platforms	DV: Complementor performance; IVs: Multihoming, interdependencies, similarity to complements	Multihoming results in performance gains on the home platform due to learning from adaptation to new platforms, especially when interdependencies are high and complement similarity is significant.	No	Yes

Title	Journal	Year	Authors	Setting	Variables	Key takeaways	Addresses a shock	Multihoming
platform ecosystems								