Digital Platform Strategy – A Systematic Critical Review

Stanislav Mamonov
Montclair State University
stanislav.mamonov@montclair.edu

Abstract

While the transformative effect of digital platforms is broadly recognized, digital platform-related research evolved in largely disconnected streams focusing on technical platform architecture, network effects, and specific tactical decisions, without offering a holistic view of digital platform strategy. With the goal of advancing digital platform strategy research, we conduct a systematic critical review of research published in the leading Information Systems journals through a pragmatic business strategy lens that argues that markets, partnerships, differentiators, staging, and profit logic form the core elements of a holistic business strategy. We outline the core insights in extant research and we identify a number of promising opportunities for expanding the scope of digital platform strategy research in Information Systems.

Keywords: digital platforms, strategy, review

1. Introduction

Continued evolution of information technology (IT) is transforming many industries. The emergence of digital platform firms, defined as firms that "use information and communication technologies to facilitate interactions (including commercial transactions) between users, collection and use of data about these interactions, and are subject to network effects which make the use of the platforms with most users most valuable to other users" (Gawer, 2020), is the most visible sign of this transformation. Four firms built on the foundation of digital platforms: Apple, Microsoft, Alphabet (Google), and Amazon constitute approximately 20% of equity value of publicly traded firms in the United States, reflecting investor anticipation of transformative effects of these firms on the markets.

While the transformative effect of digital platforms is broadly recognized (Boudreau, 2010; Gawer, 2014; Tiwana et al., 2010), the research on the strategic implications of digital platforms has evolved in largely separate streams focusing on either the platform architecture (Tiwana, 2015b; Tiwana et al., 2010), network externalities (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005), or tactical decisions (Eisenmann et al., 2006; Lin et al., 2011). There has been relatively little integration of research across these streams (De Reuver et al., 2018; Gawer, 2014).

Theoretical integration of extant research is a critical step in advancing theory development (Murungi & Hirschheim, 2021; Paré et al., 2015; Rowe, 2014). To address the relative lack of integration of digital platform research in relation to firm strategy, we undertake a systematic critical review of digital platform-related literature published in the leading Information Systems (IS) journals: *Management Information Systems Quarterly* (*MISQ*) and *Information Systems Research* (*ISR*). These journals emphasize theoretical contribution in the selection of manuscripts for publication (Ågerfalk, 2014; Leidner, 2020) and they reflect the core theoretical discourses in Information Systems. Therefore, these journals constitute an appropriate frame for the review (Schryen et al., 2015).

Following the methodological recommendation for conducting systematic literature reviews (Okoli, 2015; Webster & Watson, 2002), we use the business strategy framework developed by Hambrick and Fredrickson (Hambrick & Fredrickson, 2005) as a structuring theoretical lens for our review. The framework posits that business strategy must holistically address five key elements: markets, partnerships, differentiators, staging, and profit logic. Drawing on this framework we seek to address the following research questions. RQ1: What is known about firm-level digital platform strategy? RQ2: Where are gaps and opportunities to expand the current research?

Our analysis reveals that much of the published research in our selection frame narrowly focuses on partnerships and staging decisions. Much less attention has been given to the choice of markets, platform differentiators, and fundamental profit logic. None of the studies in our sampling frame offer a holistic examination of the five strategy components. We critically review the publications in our selection frame to highlight the counterintuitive results that have strategic implications. We also outline a number of directions for expanding the scope of research on digital platform strategy in Information Systems.

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2. Theoretical background

2.1. IT role in strategy

The strategic role of IT in business has long been an important stream in IS research (Benbya et al., 2019; Drnevich & Croson, 2013). This stream has evolved over time from the consideration of competitive advantage offered by specialized IT (Drnevich & Croson, 2013; Ravichandran et al., 2005) to IT/business strategic alignment (Issa-Salwe et al., 2010; Tallon & Pinsonneault, 2011). While there is a growing realization that IT-enabled digital platforms represent unique challenges in terms of business strategy formulation (Constantinides et al., 2018; Tiwana et al., 2010), extant literature in Information Systems has not yet offered a holistic perspective on digital platform strategy. In the next section, we will review a general business strategy framework developed in management that we will use as a theoretical lens for structuring our review of extant research on digital platforms in the leading IS journals.

2.2. Firm-level strategy framework

The word strategy comes from Greek στρατηγική (pronounced *stratigikí*), meaning the "art of being a general". While the term has been used in many different ways colloquially and in research (Ronda-Pupo & Guerras-Martin, 2012), there is academic consensus that, conceptually, strategy captures a high-level plan of action that considers the environment and the available resources (Ronda-Pupo & Guerras-Martin, 2012).

While numerous strategic analysis frameworks have been developed (Kumar et al., 2016; Wilden et al., 2013), a common criticism of these frameworks has been that they do not offer practical guidance for strategy formulation. Responding to this criticism, Hambrick and Fredrickson (Hambrick & Fredrickson, 2005) developed a pragmatic framework for strategy formulation that argues that holistic firm-level strategy must address five key questions: 1) which markets the business will serve (markets), 2) how these markets will be reached (partnerships), 3) how the offerings will be differentiated vis-à-vis competitors (differentiators), 4) what is the sequence and timing of specific strategic steps (staging), and 5) what is the fundamental profit logic (profit logic)?

The choice of markets focuses on the target customers and product/services to be offered to each customer segment. Hambrick and Fredrickson (Hambrick & Fredrickson, 2005) argue that the formulation of the target markets needs to address the key technologies and value-adding activities that would be leveraged by the company to serve each customer segment.

Reaching specific markets often involves formation of partnerships that can take different forms, for example, joint ventures (Ronda-Pupo & Guerras-Martin, 2012) and technology licensing arrangements (Kollmer & Dowling, 2004). Among other considerations, the need for partnerships can be driven by the necessity to acquire specific resources/capabilities (Bamford et al., 2004), or by country-level regulations that require specific partnership structures for foreign firms (Hu & Chen, 1996).

Business success ultimately depends on the willingness of the target customer segments to pay for the products and/or services offered by the firm. Naturally, most markets are competitive. A clear explication of the point of differentiation of the company offerings is the third essential element of strategy formulation. Hambrick and Fredrickson (Hambrick & Fredrickson, 2005) argue that sans a clear explication of the points of differentiation, firm offerings are unlikely to succeed in the target markets.

Given the target markets, expected partnerships, and requisite decisions on differentiation, there is a need for a clear plan of steps (sequence and timing) that would be necessary to achieve the strategic objectives. Hambrick and Fredrickson (Hambrick & Fredrickson, 2005) suggest that explication of the current and the desired position in the target markets can help the formulation of the sequence and timing of steps in strategy execution.

Profit logic is the final element of the holistic strategy formulation (Hambrick & Fredrickson, 2005). Profit logic must outline the specifics of how the firm strategy will generate returns for investors. At its essence, profit logic must address the rationale for why customers would prefer the company offerings versus those from competitors vis-à-vis the company costs in serving its customers in relation to costs of competitors.

3. Methodology

Literature reviews play a critical role in theory development (Murungi & Hirschheim, 2021; Paré et al., 2015; Rowe, 2014). In developing this literature review, we follow the guidelines in (Okoli, 2015; Webster & Watson, 2002) that outline the following steps in a systematic literature review process: 1) motivate the research topic, 2) describe the key concepts, 3) delineate the boundaries of research, 4) review prior literature, 5) present results, 6) develop a model for future research, 7) discuss theoretical and practical implications. We also adhere to the recommendation for improving the

transparency and reproducibility of published reviews by explicating inclusion and exclusion criteria in the selection of the literature for this review (Corley & Schinoff, 2017).

This review is the initial step in a comprehensive cross-disciplinary digital platform strategy review. We focused this review on *MISQ* and *ISR* as these journals emphasize theoretical contributions as a key consideration for publication (Ågerfalk, 2014; Leidner, 2020) and, therefore, these journals serve as an appropriate lens for identifying the core theoretical discourses in Information Systems (Schryen et al., 2015).

To select the studies for the analysis, we searched the journals for articles containing the words "platform" or "market" in either the title, the abstract or the list of keywords published through May 2022. In aggregate, we retrieved 132 manuscripts across the two journals.

In the next step, because our focus is on integrating original theoretical and empirical research, we excluded review articles and editorials from our analysis.

Next, we examined the remaining studies to determine the level of analysis in each. For this review, because our focus is on firm-level digital platform strategy, we selected only the studies at the firm-level of analysis. Following the recommendations for concept-focused systematic reviews (Okoli, 2015; Webster & Watson, 2002) and in alignment with RQ1 which focuses on what is known about strategy formulation in the digital platform context, we excluded manuscripts that did not include at least one component of the strategy framework. Filtering the selected sample of articles for the criteria outlined above, left us with 41 empirical and theoretical studies that focus on markets, partnerships, differentiators, staging or profit logic in relation to digital platforms. 21 manuscripts (51%) were published in *MISQ* and 20 manuscripts (49%) were published in *ISR*.

4. Analysis

Following the recommendations for conducting systematic literature reviews (Okoli, 2015; Webster & Watson, 2002), we examined the extant literature through the lens of business strategy framework (markets, partnerships, differentiators, staging, and profit logic). We find that much of the research in our sample is concentrated in the areas of partnerships (49% of published papers in our sample) and strategy implementation steps (staging) (27% of published papers in our sample).

In the next sections, we will highlight the key results from the manuscripts in each of the strategic areas.

4.1. Markets

Digital platform research in our sample offers a number of insights regarding digital platform market selection. Banker et al. (Banker et al., 2011) found that introduction of a digital coffee trading platform in India did not always improve outcomes for coffee sellers. Whereas the platform generally improved prices realized by coffee growers, specialty coffee growers were able to realize better prices through in-person transactions conducted off the platform. These results imply that, from the sellers' point of view, digital two-sided markets work better for commodity products than for specialized offerings. Feng et al. (Feng et al., 2020) conducted economic modeling examining whether firms always benefit from the first-mover advantage and found that a number of factors can affect the first-mover advantage. These factors include length of market growth, length of the demand window, and rate of improvement among the competitors. Analytical modeling conducted by Zhu et al. (Zhu et al., 2021) suggests that market entry decision must account for the likely competitive response from existing market participants. Aggressive competitive response can diminish the attractiveness of a market. He et al. (He et al., 2020) assessed the impact of an e-commerce platform entry in China on local businesses that had online and offline presence and found that e-commerce platform entry did not have a significant impact on either the online or physical sales of existing stores. These results suggest that e-commerce platform introduction may grow the overall market rather than lead to a zero-sum competition with existing market participants.

4.2. Partnerships

Research focusing on the selection and governance of digital platform partnerships is the most active area of research in our sample. Published studies focus on the selection of partners as well as governance of partner relationships.

Focusing on partner selection, Song et al. (W. Song et al., 2021) suggest that partner willingness to engage with a digital platform is affected by the level of consumer awareness of partner's products, expected spillover benefits for related products offered by the partner, and the cost structure associated with platform participation. Greater spillover benefits and lower costs help with partner recruitment. Chen et al. (Chen & Guo, 2022) leverage game theoretic analysis to suggest that external advertising options also affect partner willingness to engage with a platform. Koh & Fichman (Koh & Fichman, 2014) examine B2B digital two-sided platforms and find that buyer interest in a platform in

non-monotonic. Increasing competition among the buyers on a platform may discourage participation. Kim et al. (Kim et al., 2021) examine the counterintuitive observation that video gaming platforms support secondary markets for video games and find that secondary markets are beneficial for the overall demand on the primary platforms. Geva et al. (Geva et al., 2019) examine the effect of an exogenous shock that increased the number of lower-quality projects on Kickstarter, a reward-based crowdfunding platform, and found that the increase in lower-quality projects did not affect the likelihood of high-quality projects attracting funding.

Platform/partner governance related research evolved in four themes, focusing on general governance, incentive structures, provision of technical tools, and partner investments in the platforms. Parker et al. (G. Parker et al., 2017) offer a theoretical argument that engagement of developers in digital platforms fundamentally changes the locus of innovation and therefore requires novel approaches to organizational management. Lusch & Nambisan (Lusch & Nambisan, 2015) argue that information technology fundamentally reshapes service delivery and, therefore, service-dominant logic can be a useful theoretical lens for guiding future research.

Several studies provide empirical support illustrating challenges in managing partnerships in multi-sided digital platforms. Möhlmann et al. (Möhlmann et al., 2021) report tensions associated with algorithmic management of Uber drivers. He et al. (He et al., 2021) analyze the supply elasticity in a Chinese ride sharing platform and, unexpectedly, find negative supply elasticity, highlighting the limitations of pricing as a market coordination mechanism.

Further exploring the effects of incentives in attracting platform partners and encouraging platform engagement, Yu et al. (Yu et al., 2022) show that incentives can be effective in promoting review contributions in a restaurant rating service. However, Liang et al. (Liang et al., 2019) find that platform rewards may also promote multihoming by platform partners. In other words, rewards offered by one platform can encourage partners to join other platforms and participate in more than one platform.

Focusing on the effects of knowledge sharing, Niculescu et al. (Niculescu et al., 2018) perform game theoretic analysis and suggest that network effects and absorptive capacity influence the platform decision to share intellectual property with platform partners. Jin et al. (Jin et al., 2021) analyze crowdsourcing contests and find that effective knowledge sharing among participants on the platform is instrumental in increasing the quality of the crowdsourced solutions.

Examining the effects of technical platform updates, Song et al. (P. Song et al., 2018) find that frequent platform updates can be detrimental to platform success by weakening cross-side network effects. Ceccagnoli and Forman (Ceccagnoli & Forman, 2012) analyze third-party vendors participating in a software platform and find that long-term success of individual third-party vendors is related to their ability to maintain interoperability with different platform components.

Toolkits have emerged as an important mechanism to support partner innovation in digital platforms. Ye and Kankanhalli (H. (Jonathan) Ye & Kankanhalli, 2018) find that ease of toolkit use is associated with more applications submitted to a platform by developers. Kankanhalli (Kankanhalli, 2015) also reports that experience with toolkits is an important factor that affects developer productivity. Li et al. (Li et al., 2019) find that more successful sellers in an e-commerce platform exhibit greater action repertoire.

4.4. Differentiators

We find only a single study that examines platform differentiation in our sample. Shi and Raghu (Shi & Raghu, 2020) perform economic modeling and suggest that consumer taste dispersion along with product quality can be an important factor that affects platform profitability.

4.5. Staging

The studies in our sample that focus on the steps in digital platform strategy execution examine the effects of information provisioning, matching algorithms, changes in incentive structures, and competitive actions.

Huang et al. (Huang et al., 2018) show that information seeding can be an effective strategy in stimulating information contribution by platform participants. Zhang et al. (Zhang et al., 2021) show through game theoretic analysis that negative reviews can be beneficial to the platform, while not always beneficial to platform partners. Juan et al. (Jung et al., 2021) experimentally demonstrate that information provisioning can have different impacts on platform participants.

Exploring the effects of cross-side matching, game theoretic analysis suggests that imperfect matching may be in the interest of platform owner (Kannan et al., 2021). Wu et al. (Wu et al., 2021) further show that platform owner may be incentivized to introduce bias in matching when there is outcome uncertainty regarding the potential transaction between the matched parties and there is a threat of new platform entrants.

Researchers have examined the effectiveness of different incentive and promotional tactics and report that the strength of network effects can influence the outcome of non-pricing recruitment efforts (Dou & Wu,

2021). Liu et al. (Liu et al., 2020) report that one side of a two-sided market can be more effective in recruiting participants to a platform. Gong et al. (Gong et al., 2021) suggest that reward uncertainty can also be an effective mechanism in driving platform engagement. Sun et al. (Sun et al., 2021) report that multi-promotional strategy can be optimal in e-commerce marketing campaigns.

Studies focusing on competitive actions, report that pricing competition can undermine profitability of the dominant platforms (Barua & Mukherjee, 2021). An analysis of acquisitions by digital platform firms finds that they tend to acquire competing businesses relatively early in their trajectories (Miric et al., 2021).

4.6. Profit logic

Several studies have examined factors that can influence the choice of the revenue model on business profitability. Kwark et al. (Kwark et al., 2013) find that third party information can be a factor that influences the choice of the revenue model. Chen et al. (Chen et al., 2016) evaluate the factors that influence the choice between advertising and brokerage model in e-commerce and suggest that advertising space availability and the probability of matching buyers and sellers influence the choice of the business model. Tang and Guan (Tang & Guan, 2021) examine the effects of provider homogeneity on optimal pricing in daily deal platforms and find that greater degree of provider heterogeneity improves platform profitability.

5. Discussion

In reviewing the manuscripts focusing on platforms or markets published in the two leading IS journals through the lens of pragmatic business strategy, we find that research has been largely concentrated on topics related to partnerships (49%) and staging (27%). Markets (12%), differentiators (2%), and profit logic (10%) received less attention. We found no manuscripts that considered factors with direct implications for more than a single component of the strategy framework.

5.1. Markets

Digital platforms are unique in that they can underpin the creation of new business models wherein the platform owners facilitate the interactions among multiple sides of the markets as opposed to vertical integration of value creation activities (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005). The choice of market sides, i.e. specific market segments, that the platform would serve, is a particularly prescient strategic decision in the context of digital platforms (Boudreau, 2010; Gawer, 2020). While we find a number of insightful theoretical contributions in our sample, that highlight that digital platform entry is not always a zero-sum scenario in relation to the existing physical and digital businesses (He et al., 2020), but at the same time digital platforms may not necessarily optimally serve all market participants (Banker et al., 2011), we do not find any studies that directly address the question of how firms choose the market sides in launching the digital platform initiatives. There is a clear opportunity to extend IS research and examine the effects of digital transformation on different markets *vis-à-vis* digital platform creation.

One of the key distinguishing characteristics of multi-sided markets is that they often exhibit same-side and cross-side network externalities (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005), i.e. the services offered by a digital platform grow in value exponentially with the increase in the number of platform participants on same or other sides of the platform respectively. While the conventional profit logic associated with digital platforms is that they offer a clear first-mover advantage by allowing the first entrant to build the platform base that becomes an effective of source of competitive advantage (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005), we find important theoretical insights showing that the length of the demand window, the length of market growth, and the rate of innovation by competitors can erode the first-mover advantage (Feng et al., 2020). Practice provides many examples of failed platforms that were first-movers in the respective markets (Yoffie et al., 2019) – there is an opportunity to further expand IS research to better understand factors that can undermine the success of first-movers in digital platforms.

5.2. Partnerships

In the traditional firm strategy formulation, the choice of partnerships serves the goal of 1) gaining resources/expertise or 2) satisfying regulatory requirements necessary for target market entry (Hambrick & Fredrickson, 2005). In digital platforms, partnerships often have far greater implications because in many contexts, partners drive innovation and expand service offerings on the digital platforms (Tiwana, 2015a; Tiwana et al., 2010). For example, application developers on mobile platforms are largely responsible for meeting the myriad of different mobile users' wants and needs in terms of available applications (apps) (Tiwana et al., 2010). The reliance on partners for innovation creates critical challenges for platform owners in managing partner relationships (G. Parker et al., 2017). The research in our sample illustrates the key

effects of providing technical tools to support partner innovation (Kankanhalli, 2015; H. Ye & Kankanhalli, 2018), as well as insights on effective governance (He et al., 2021; Möhlmann et al., 2021) and reward mechanisms (Foerderer et al., 2021; Yu et al., 2022).

Importantly, there are a number of counterintuitive insights in published research. Kim et al. (Kim et al., 2021) find that in the context of video gaming, a secondary market promotes the demand in the primary market. These results require more careful consideration of competitive dynamics in digital platforms. Geva et al. (Geva et al., 2019) examined the effect of an increase in lower-quality projects on reward-based crowdfunding platform and, counter to expectations, found that it had no effect on the likelihood of higher-quality projects successfully attracting backers on the platform. In a contrasting result, Koh and Fichman (Koh & Fichman, 2014) report that buyer interest in a B2B platform may actually decline with the increase of buyers on the platform. These findings imply that it is important to understand the impact of information provisioning and competitive dynamics on the likelihood of transactions in specific digital platforms.

5.3. Differentiators

Our analysis finds only a single manuscript related to service differentiation in the digital-platform firms. Shi and Raghu (Shi & Raghu, 2020) show that consumer taste dispersion creates an opportunity for platform firms to improve profitability through product recommendations. The potential examination of factors that can influence product/service differentiation in the digital platform context represents a clear opportunity for future research. Prior research on information goods has shown that product differentiation affords an opportunity for price discrimination that can have a positive effect on firm productivity (Bhargava & Choudhary, 2001; Clemons & Weber, 1994). There is an opportunity to examine the generalizability of these effects in different digital platform contexts, for example examining the effect of product/service tangibility, same and cross-side network effects, and consumer preference dispersion on digital platform profitability.

5.4. Staging

Research focusing on the key actions and their timing in digital platforms is the second largest subset of studies in our sample. While we already highlighted the key empirical findings in the Results section, here we will focus our attention on some counterintuitive results that we find in our sample of research.

First, while market efficiency is often highlighted as one of the key benefits of digital markets, research suggests that platforms may actually benefit from imperfect matching of market participants (Kannan et al., 2021). Wu et al. (Wu et al., 2021) further suggest that platform owners may benefit from introducing bias in information available to platform participants thus creating an opportunity for excess profit harvesting. These results suggest a need for close regulatory oversight of digital platforms given the economic incentives that may have adverse implications for digital platform users. Further research to examine potential regulatory frameworks and their impact on consumer and platform welfare would be beneficial in guiding policy formulation.

The second group of studies that merits closer attention, focuses on competitive dynamics in platform-based competition. Barua and Jukherjee (Barua & Mukherjee, 2021) show that price competition may undermine the profitability of a dominant platform. These results add nuance to the expectation of significant advantage for the dominant platform players – their ability to convert the dominant position into profitability will be moderated by the extent of price competition from new entrants.

Miric et al. (Miric et al., 2021) find that digital platform firms tend to acquire direct competitors very early in their business development. These results merit further investigation to understand the impact of platform competitive actions on the platform users. Regulatory intervention may also be necessary to assure that the regulatory environment promotes competition to assure platform innovation and positive platform user outcomes.

5.5. Profit logic

Studies focusing on the profit logic in our sample, while not fully addressing the sustainability of a chosen business/revenue model, offer a few insights on the factors that influence the choice between different revenue models. Kwark et al. (Kwark et al., 2013) report that availability of third-party information can affect the choice of the business model. Tang and Guan (Tang & Guan, 2021) show that segmentation can improve the profitability in the context of daily deal platforms. Chen et al. (Chen et al., 2016) show that available digital assets and likelihood of cross-side matching can influence the choice between advertising and brokerage model in the e-commerce context.

The study by Karhu et al. (Karhu et al., 2018) offers a deep dive into the sustainability of a chosen business model by examining how Google defended its Android platform from competitive forking. Upon entry into the mobile platform space, Google open-sourced its entire

Android platform giving potential competitors access to all the platform source code. This allowed a number of companies, that include Xaiomi and Amazon, to copy the entire Android base operating system and release competing mobile operating systems based on forked (copied and customized) versions of Android. Importantly the forked versions, eliminated Google application store and media applications (electronic books, music, video) and offered their own competing services, thus impinging on Google's opportunity to recoup its investment in Android. The analysis of Google's competitive response shows that the company was strategic – whereas it pursued legal and technical steps in relation to Amazon, Google chose to partner with Xaiomi and it did not seek to block the forked version that was offered by Xaiomi in China, where Google's own app store and media applications were blocked by the government (Karhu et al., 2018). These observations illustrate the complexity of competitive strategy in the digital platform markets and necessitate further exploration into cases from practice to develop a better understanding of the key factors that can influence the sustainability of the digital platform profit logic.

5.6. Digital platform strategy

In this section, we will examine the key apparent differences in strategy formulation for traditional versus digital platform firms.

Market selection is the most obvious difference in strategy formulation between the traditional and digital platform firms. While traditional firms, may select multiple markets and develop multiple offerings to the respective markets, digital platform firms must find opportunities wherein digital platforms broker transactions between at least two sides of a market. Digital platform strategy formulation therefore must begin with the definition of at least two sides of a market that are interested in transacting with each other. Research suggests that established competitors (Zhu et al., 2021), market growth window and the rate of innovation among competitors (Feng et al., 2020) will influence the attractiveness of the chosen markets.

In as much as the digital platforms depend on the platform partners for developing innovating offerings on the platform, selection and management of partnerships is a critical element of strategy formulation for digital platforms. While traditional firms generally have an option of full value chain integration within the firm, digital platforms, by definition, require partners for value creation. The shift in locus of innovation in digital platforms has been recognized in research (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005). The studies in our sample highlight incentives (W. Song et al., 2021), (Yu et al., 2022), (Foerderer et al., 2018), toolkits (Kankanhalli, 2015), (H. (Jonathan) Ye & Kankanhalli, 2018), and platform governance (G. Parker et al., 2017), (Möhlmann et al., 2021) as the key factors that influence partner recruitment, retention, and productivity.

Our analysis suggests that digital platform-based differentiation is a relatively open area of opportunity for research. While there is recognition that consumers/buyers often display preference heterogeneity (Shi & Raghu, 2020), there is little analysis of considerations and IT affordances that may influence platform selection.

Network externalities are a critical consideration in the staging and profit logic for digital platform firms (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005). Strong cross-side network effects can quickly lead to a "winner-take-all" scenario where the early entrant will claim a dominant position in a given market (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005). To the extent that a given context supports multiple competing digital platforms, the use of pricing (Tang & Guan, 2021), non-monetary incentives (W. Song et al., 2021), (Sun et al., 2021), (Gong et al., 2021), (Foerderer et al., 2021), matching algorithms (Kannan et al., 2021), and information provisioning (Zhang et al., 2021), (Huang et al., 2018) can afford a strategic advantage to a given platform. This is a rather different set of choices from the considerations in traditional strategy formulation (Hambrick & Fredrickson, 2005). Table 1 summarizes the differences between traditional versus digital platform-based firm strategy and provides exemplars of research related to key strategic decisions.

Table 1. Digital platform versus traditional firm strategy

	Traditional firms	Digital platform firms	Examples in current research
Markets	Selection of markets/segments	Selection of at least two market sides	Market growth window, rate of innovation among competitors (Feng et al., 2020) Competitive response (Zhu et al., 2021)
Partnerships	The option of complete vertical value chain integration or	Partner-driven innovation is a critical element	Incentives (W. Song et al., 2021), (Yu et al., 2022), (Foerderer et al., 2018)

	engage in partnerships/joint ventures.		Platform openness (Chen & Guo, 2022) Governance (G. Parker et al., 2017), (Möhlmann et al., 2021) Toolkits (Kankanhalli, 2015), (H. (Jonathan) Ye & Kankanhalli, 2018)
Differentiation	Features/value – defined by the firm	Differentiation is a joint effort by platform owner and platform developers	Recommendations (Shi & Raghu, 2020)
Staging	Firms often pursue markets in stages	Network effects often lead to winner take all effect, however there are factors that influence the first-mover advantage effect.	Incentives (W. Song et al., 2021), (Sun et al., 2021), (Gong et al., 2021), (Foerderer et al., 2021) Matching (Kannan et al., 2021), Information provisioning (Zhang et al., 2021), (Huang et al., 2018)
Profit logic	Value proposition to customers, economies of scale in sourcing/production/delivery.	Same-side and cross-side network effects are critical considerations, one side of the market is often subsidized.	Pricing (Tang & Guan, 2021) Business model (Chen et al., 2016), (Kwark et al., 2013) Platform forking (Karhu et al., 2018)

6. Conclusion

This study is motivated by the fact that while digital platform-based firms are transforming industries and markets, platform-related research evolved in largely disconnected streams focusing on technical platform architecture (Tiwana, 2015b; Tiwana et al., 2010), network effects (Katz & Shapiro, 1985; G. G. Parker & Van Alstyne, 2005), and specific tactical platform decisions (Eisenmann et al., 2006; Lin et al., 2011) without offering a holistic view of digital platform strategy. We conducted a systematic critical review of extant platform-related research published in the leading Information Systems journals through a pragmatic business strategy lens (Hambrick & Fredrickson, 2005) that argues that markets, partnerships, differentiators, staging, and profit logic form the core elements of a holistic business strategy. We find that the research in our selection frame is primarily focused on partnerships and staging decisions, while the topics of markets, differentiators and profit logic have received less attention. Further, we find little integration of the five core strategic elements in research. In addition to the need for integration across the core focal strategic areas, we outline a number of further opportunities for research.

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