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5. Framing and reframing digital business models: the global messenger industry

Sungu Ahn and Charles Baden-Fuller

INTRODUCTION

The digital world has been characterized by frequent technological advances that alter the way firms create and capture value (Yoo, Boland, Lyytinen, and Majchrzak, 2012, and the introduction to this volume). Specific innovations include the arrival of inexpensive personal computers (PCs), ubiquitous mobile devices, 4G followed by 5G connectivity, and inexpensive machine learning capabilities matched by inexpensive big data storage. These events (and others not mentioned) have altered the capabilities of digital firms and thus challenged firms to think about their business models (value creation and capture mechanisms) in a cycle of change that is far faster than that in more traditional industries.

How do incumbent and new firms respond to the challenges of continual technological change? In particular, how have firms chosen and adjusted their strategies and associated business models? In times of technological change, it is rarely obvious how managers (who might be entrepreneurs) should approach the challenge. The lack of obvious signals concerning correct choices stems from the fact that technology does not define the relevant business model; business models need to be constructed to mobilize technology (Baden-Fuller and Haefliger, 2013; Chesbrough and Rosenbloom, 2002). The framing of the business model is a cognitive process (Baden-Fuller and Morgan, 2010) because the business model choice is bound up with the strategy choice (Casadesus-Masanell and Ricart, 2010). The literature on strategy has long recognized that cognitive frames are a key component of the determinants of strategy choice (Aversa, Huyghe, and Bonadio, 2021; Doz and Kosonen, 2010; Gavetti and Rivkin, 2007; Kaplan, 2008; Martins, Rindova, and Greenbaum, 2015; Porac, Thomas, and Baden-Fuller, 1989; Spender, 1989; Tripsas and Gavetti, 2000).

When thinking about business models and the framing of business models, we pay attention to value creation and value capture combinations. In the context of digital enterprises, three choices are particularly salient. The first is the traditional pipeline model, where customers are charged directly for the service (often using a freemium model). The second is the advertising support model, where advertisers provide the revenues to support the services and advertising is often viewed as neutral or negative from the value creation standpoint. The third is the complementor model, where providers of value-added complementary services attached to the core product provide the revenues to support the service. These three models can (and often do) overlap and sometimes intertwine. They often play out differently in different contexts. However, conceptually, each has a different "logic"; that is, each is a "distinct business model" (in the terminology of Baden-Fuller and Morgan, 2010).

From where do these frames emerge? Two strands of thinking have emerged over the years: the nature of the firm and the nature of the environment. Regarding the first theme, the nature of the firm, Tripsas and Gavetti (2000), in their study of Polaroid, noted that different divisions

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of the organization tended to utilize similar business models, suggesting that a shared mindset was prevalent. Likewise, Chesbrough and Rosenbloom (2002) and Chesbrough (2010) noted that Xerox rarely deployed novel business models among its many innovative enterprises formed in its own incubator, also indicating a strong sense of shared framing. More recently, Aspara, Lamberg, Laukia, and Tikkanen (2013) highlighted the importance of internal interactions between different groups of managers in framing business model choices in the context of changing digital technology for mobile phones at Nokia. Luoma, Laamanen, and Lamberg (2022) have pushed further by introducing the importance of organizational routines as a basis for cognitive framing of strategies and business models, drawing heavily on the work of Feldman and Pentland (2003). These insights provide further theoretical framings for the role of internal managerial influences.

When dealing with the challenge of setting the business model (and associated strategies) for a wholly new enterprise, in wholly new industries, many hints but few definitive guides are available. First, the possible influence of the overall environment is stressed. Spender (1989) argued for an industry with established recipes. Following this theme, Porac, Thomas, and Baden-Fuller (1989) argued that the community to which firms belong can be the source of inspiration for the business model (labeled a strategic approach), a framing that was reinforced by local (rather than global) competitive forces. In this case, the community was Hawick, a small town in Scotland where most of the community of firms was located, particularly a local technical college devoted to assisting local firms to which most managers were affiliated. We also note that for new firms, the power of the local context in framing business model choices is moderated by the antecedents of the entrepreneur; that is, those coming from inside the industry are more likely to adopt existing frames (Narayan, Sidhu, Baden-Fuller, and Volberda, 2020).

Although competitive forces clearly play a part in choosing a business model, other factors are often at work, particularly for new entrepreneurial firms (Sund, Galvan, and Bogers, 2021). We know that choosing a business model is a cognitive act that involves a complex set of processes of modeling and framing that involves search and experimentation (Baden-Fuller and Mangematin, 2013; McGrath, 2010). In this respect, Ott, Eisenhardt, and Bingham (2017) suggested three processes, namely doing, thinking, or bricolage, and that activities are intertwined between thinking and acting when firms design what they do and then enact those designs, often with variations. However, these processes are deeply influenced by technological possibilities because strategies in general and business models in particular are constructions that mobilize technological possibilities (Baden-Fuller and Haefliger, 2013).

In other words, new firms can challenge the status quo when they construct their own framing. This occurs when entrepreneurs have a "Schumpeterian" approach to strategy, along the lines advocated by Teece (2018, 2020). These observations build on the earlier work of Baden-Fuller and Stopford (1992) and Spender (1989), who argued that firms can "break the mold" of "industry thinking" through deliberate action that leverages technological advances, opening up new strategy combinations.

Finally, the boundaries between established firms and new firms are not always clear. In a recent article by Murmann and Zhu (2021), an established player (Tencent) approached the challenge of setting a new business model for one of its divisions in a manner more akin to that of a new firm by creating an internal contest between different approaches and deliberately attempting to break the "established ways of thinking."

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We explored these ideas through our study of 14 important actors in the global digital messenger industry, from its inception in the mid-1990s to the late 2010s. We found that during the first period of the PC technology era, the advertising-supported business model prevailed. It was only in Korea[1] that we found challenger business models: those of monetization via complementors, pioneered by SayClub and later adopted by Nateon-Cyworld. Our detailed probing of these complementor monetization strategies proved to be effective for the local Korean environment, but they were not exported to other countries by Korean firms (nor adopted by international rivals); thus, they did not impinge on other players in other locations.

When the PC technology shifted to mobile, the potential value of complementor strategies became more salient. New firms emerged to challenge existing players with novel business models in the United States, Korea, Japan, and China. WhatsApp was greatly successful in the United States, with its simple fee for service, an offer that seemed attractive owing to the focus of WhatsApp on delivering quality communication services and avoiding the negative aspects associated with advertising. In Korea, new players, particularly KakaoTalk, exploited the complementor business model successfully, and the results of our in-depth analysis suggest that quite different ways of thinking prevailed in this firm. KakaoTalk was followed (implicitly or explicitly) by Line in Japan and WeChat (Tencent) in China. The complementor business model strategy for mobile technology proved to be extremely successful in terms of profits and influence for Korean, Japanese, and Chinese firms, sidelining firms with the advertising business model.

In choosing their business models and associated strategies, the major US-based firms appeared to have been deeply influenced by the business models of their parent firm and slightly influenced by events in Korea, Japan, or China, despite the fact that their operations in these countries were significantly curtailed by local competition using different business models. More in-depth work must be undertaken to examine why the US messenger firms (particularly Yahoo! and Microsoft) were so set against exploring novel business models (of launching super apps) for the US market and why so many significant US players exited the messenger market by 2020, leaving a single actor, Facebook, and its wholly owned subsidiary WhatsApp, as the dominant player.

METHODS AND APPROACH

To identify the important actors in the instant messenger industry and the key technologies and relevant communities that might influence the managerial cognition behind the critical decisions made by the various actors in the industry, we actively gathered primary and secondary data from various databases. Our approach was consistent with those used by previous researchers who similarly sought to understand managers' cognitive frames using interview transcripts, shareholder letters, and investor relation materials (Abrahamson and Hambrick, 1997; Barr, 1998; Barr, Stimpert, and Huff, 1992; Cho and Hambrick, 2006; Clapham and Schwenk, 1991; Eggers and Kaplan, 2009; Kaplan, 2008).

The instant messenger service has developed significantly since its first commercial inception in the late 1990s.[2] In its infancy, it allowed users to exchange only text messages, and over time, more capabilities were added to include the sharing of photographs, videos, and more recently a range of embedded digital services with the worldwide web enabled by a computer,

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a phone, or other mobile devices. This service has not only displaced the much older traditional mobile phone company texting service but also become the most popular digital service.

We divided our study of the industry into two periods: the PC and mobile technology periods. The first commercial launch of instant messenger services was linked to the emerging popularity of PCs and the associated access to the worldwide web. During this period, the penetration of instant messenger services was quite limited because of the lack of accessibility of PCs. The arrival of mobile phones and connectivity transformed the industry, as more people could access the service, which led to a sharp increase in its popularity. Mobile technology also requires new competencies in terms of app and service developments. Finally, mobile technology has opened up more positive novel business models. The original actors appeared to be challenged, and new actors arrived, displacing the original incumbents, many of whom were unable to adjust fully.

In our study, we also divided the industry by geography. Although digital messenger services can be transmitted across the globe, language, cultural, and other barriers partitioned the industry between the English-speaking North American and Asian markets, which have different characteristics and approaches.

While numerous messenger applications have been developed throughout industry history, we selected 14 messengers for this study on the basis of the following criteria: (1) popularities and representativeness and (2) polarities and unusual exhibitions of variances in traits (i.e., business model), which are prime subjects of the investigation (Miles and Huberman, 1994). Methodologically, our approach was to undertake a cross-case analysis to examine emergent patterns across cases (Eisenhardt and Graebner, 2007). We focused on whether and how frames of managerial cognition link to the development of business models (Kaplan, 2011; Walsh, 1995).

In our study, we first looked across all 14 firms to capture the extent to which established frames of reasoning explain events and where there are deviations. Our next step was to probe the exceptions, which in our case were the innovative entrants that broke the industry frames of thinking. Where we could explain the strategies and business model choices of a firm using well-established theories, we did not probe deeply into what was happening. Confirming a well-established understanding is not our purpose. However, where we found unexplained events – that is, where firms appear to be acting "with strong degrees of agency" that go against established theorizing – we probed much more carefully. In particular, we probed the examples of SayClub and KakaoTalk, two Korean firms that adopted novel business models for the industry, which were eventually copied by Line in Japan and WeChat (Tencent) in China. Combining this cross-sectional analysis with selective case studies of extremes follows the tradition of other researchers, such as Eisenhardt (1989).

HISTORY OF THE INDUSTRY

PC Age from 1999 to 2007

During the PC era, the first scale-based service in the United States was ICQ, offered by the Israeli Internet platform company Mirabilis in 1996. It was followed in the late 1990s by several US-based firms such as AOL (with AIM) in 1997, Yahoo! (with Yahoo Messenger!) in 1998, and shortly after by Microsoft (with MSN) in 1999. AOL and Yahoo! were both Internet

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companies whose strategies were centered on a portal offering various services. (ICQ was purchased by AOL in 1998 but appeared to have been left to run itself, at least initially, as an independent company.) AOL and Yahoo! relied on advertising as a means of monetizing their offerings. Both companies had established business models and ways of thinking, and it was natural that they should offer Internet-based messenger services as part of a wider platform of web directory services that included news, searches, and e-mails. An important feature of these portal companies was monetization via advertising, often in banner form, which allowed the firms to offer their free-to-use services. The attraction of the (advertising-supported) free service was obvious: traditional telephone and text communication, which were linked to landline calls and providers, imposed costs per usage and time, whereas instant messengers were free to use (albeit with advertising) and more flexible and provided a better service, provided that the users had Internet connections. The entry dates and take-up rates (a success metric) for our sample firms are given in Tables 5.1 and 5.2.

Microsoft, which offered its MSN Messenger in 1999, was founded as a software company in 1975, with the traditional software as the product business model. Prior to 1998, Microsoft had various Internet offerings that were all combined and relaunched in 1998 as an integrated portal, with new services that included MSN Messenger. The MSN portal did carry advertising banners, but the extent of the importance of these advertisements to Microsoft, which had substantial cash flows coming from its traditional operations, was unclear.

Between 1996 and 2005, AOL, MSN, and Yahoo! were the three most popular websites, according to worldwide statistics, which justifies the choice of these three firms to be part of our sample. We suggest that the business model choices of these three major early entrants were strongly influenced by their established corporate ways of doing things.

Case Studies of Korean Challengers to Existing Framings

In the late 1990s, relatively unnoticed by Western companies and observers, important Korean messenger service companies emerged, including SayClub (and its follower Nateon-Cyworld), which adopted different business models compared with the US firms. The origins of SayClub, Neowitz's chat service, were carefully probed by Lee, Rho, Kim, and Jun (2007). The authors explained that the Internet company Neowitz was formed after the Korean financial crisis in the late 1990s, at which time the Korean government significantly altered the institutional environment for new digital firms and fostered a culture of challenging existing orders. Originally conceived as an Internet service provider, Neowitz ran a portal. Neowitz went on to form SayClub in 1999 as an Internet chat service after its other core business collapsed.

An important element of the story of SayClub's strategy and business model choices was that at the start in 1999, SayClub emulated the established US business models of Yahoo! and AOL, of monetization via advertising. Unfortunately for Neowitz, the Korean environment was not at that time favorable for digital advertising, so these attempts at running an advertising business model failed; instead, SayClub had to find a new route to monetizing the SayClub offering, which, according to Lee et al. (2007), was found through the selling of avatars.

The offering of avatars for a fee can be considered a route toward monetization of the free chat service through the use of complementary products, not necessarily for the chat service but for something that makes the chat service more attractive to users. The nature of the avatar feature is shown in Table 5.3, along with an explanation of how the avatar came about.

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Table 5.1 Summary of the business models and performances of sample messenger applications

	Messenger service name	Entry	Business model	Parent company	Performance and subsequent owners
Portal offer initially via PC	ICQ	1996	Advertising-based	Mirabilis (founders) AOL from 1998, $287 million Digital Sky from 2010, $187 million	Messenger revenues unknown, still operating in 2021
	AIM	1997	Advertising-based	AOL from founding	Messenger revenues unknown, closed in 2017
	Yahoo!	1998	Advertising-based	Yahoo! from founding	Messenger revenues unknown, closed in 2018
	MSN	1999	Advertising-based	Microsoft from founding	Messenger revenues unknown, believed to be small, closed in 2014
	SayClub	2002	Complementary-feature-based	Neowitz from founding	More than $10 million revenues at its peak
	Nateon-Cyworld	2003	Complementary-feature-based	SK Electronics founded Nateon in 1999 and bought Cyworld in 2003	More than $100 million revenues in 2006
Social network initially via PC	Myspace	2009	Advertising-based	MySpace from founding	Free service, supported by a platform that is advertising-based
	Facebook	2008	Advertising-based	Facebook from founding	Free service, supported by a platform that is advertising-based
Offer initially via mobile application	WhatsApp	2009	$1 annual subscription fees	WhatsApp (founders) Facebook from 2014, $19.3 billion	At one point, revenues exceeded $1 billion
		2016	Free		
	KakaoTalk	2010	Complementor-based	KakaoTalk from founding	85% share of the Korean market
		2016	Added-advertising-based		More than $2 billion in revenue from 2018, listed a $10 billion valuation (2018)
	Line	2011	Complementor-based	Naver founder, bought by Softbank in 2021, undisclosed price	More than $1 billion in revenue since 2016, IPO (2016), $5.5 billion market
	WeChat	2011	Complementor-based		More than $5.5 billion in revenue since 2017

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Table 5.2 Number of users for different messengers (in millions)

	PC application					Web-based SNS* envelopment			Mobile application			
	AIM	MSN	Yahoo!	ICQ	SayClub	Nateon-Cyworld	Myspace	Facebook	WhatsApp	Kakao Talk	Line	WeChat
2000	16	4	5	8	5	-			-	-	-	-
2002	22	16	12	4	10	-			-	-	-	-
2006	53	27	22	15	6	18	(1,000)		-	-	-	-
2010	100	330	248	42	-	10	(1,000)	(2,000)	10	10	-	-
2013	75	-	(55)	11	-	7		(10,000)	200	40	150	272
2016	50	-	(50)	11	-	-		(20,000)	1000	49	220	890

Notes: The figures for Myspace and Facebook are the total number of users of the platform; actual user data are not available. SayClub and Nateon-Cyworld users are South Koreans (Korean population, around 50 million). *Social network services.

Source: Nielsen net ratings/annual reports.

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> We don't know actually who suggested the avatar idea first … During the group discussion within the division, we questioned whether users can express themselves with pictorial images in the digital space … and the answer was to change the dress and fashion. That's how the avatar business was created. (Eun Ju Lee, founding team of SayClub, February 21, 2003, *Hankook Ilbo*)

The Korean online community liked this offer of a chat service supported by avatars, so much so that Neowitz became quite profitable. Indeed, Neowitz became an important Internet site for Koreans, rivaling bigger US firms. Neowitz deepened its commitment to providing complementary services for fees, rather than monetizing by advertising, by launching online gaming services that had features linked to the chat service in 2002. The gaming services linked to chat proved profitable.

Another important Korean digital firm, SK Communications, with its chat service Nateon, copied Neowitz by offering personal webpage services through Cyworld starting in 1999. Cyworld's personal webpages were easy to manage, as it was based on Flash players. Users could simply manage personal webpages with graphical interfaces (see Figure 5.1). Nateon-Cyworld copied SayClub in that it used the complementary services of avatars (and games) as the monetization route for messenger services. Nateon-Cyworld users had access to other users' personal webpages with one click. Nateon-Cyworld users could purchase various cyber items to decorate their Cyworld webpages. This means that unlike advertising-based messengers, Nateon messenger chose to create and capture values by providing complementary services. By 2006, Nateon-Cyworld achieved significant revenues of more than $100 million on a relatively modest-sized user base. In Figure 5.1, we also provide an explanation of Nateon-Cyworld's thinking about its messenger service Nateon.

> We identified any potential weakness of the avatar-based model and tried to think about a novel model that can improve the currently popular avatar model … In contrast to the previous projects, we tried to create a new one focusing on design aspect. The new one was to complement and address the lacking aspect of the currently popular avatar-based model. (Director of Cyworld, Jiyong Park, December 9, 2002, *Jungle* magazine)

Like Twitter today, users can choose to follow each other and selectively reveal content according to their privacy settings. In this way, they manage relationships between their friends, and Nateon-Cyworld's service became one of the must-use services for young people in South Korea.

The pattern of innovations of the five major messenger service companies, namely ICQ, AOL (AIM), Yahoo!, and Microsoft (MSN), and their Korean counterparts, SayClub and Nateon-Cyworld, is explained and traced in Table 5.4 and Figure 5.2. Table 5.4 lists the major innovations and explains how they work and compares which complementary services generate revenues (advertising and emoticons) and which elements are merely value-adding features. Figure 5.2 traces the launch events of each major firm in the PC era. ICQ was the innovator for the US-based firms that initiated a radical framing for the US industry, and others in the United States followed ICQ. In the same figure, we trace the innovations of SayClub and Nateon-Cyworld, which were quite different on account of their focus on a wholly different monetization route, reinforcing the points made above that the Korean firms were "mavericks" in this period.

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Table 5.3 Complementary premium service offered by SayClub

Firm	"Breaking the mold" Business model	Quotes
SayClub	While most firms capture value with adverts, SayClub invented a complementary feature-based model to create and capture values based on digital avatars	"We don't know actually who suggested the avatar idea first … During the group discussion within the division, we questioned whether users can express themselves with pictorial images in the digital space … and the answer was to change the dress and fashion. That's how avatar business was created." (Eun Ju Lee, founding team of SayClub, February 21, 2003, *Hankook Ilbo*)
Nateon-Cyworld	While the majority of firms capture value with adverts, Cyworld invented a complementary feature-based model based on personal webpages (scaled-down versions of instantly accessible personal webpages)	"We identified any potential weakness of the avatar-based model, and tried to think about [a] novel model that can improve the currently popular avatar model … In contrast to the previous projects, we tried to create a new one based focusing on design aspect. The new one was to complement and address the lacking aspect of the currently popular avatar based model … In contrast to the existing virtual community service, Cyworld is a privacy driven community based on real name and friends … If you think about 90's PC communities, you could see very brief profile introductions for each user … why don't we create this kind of space for users to express themselves with some digital items? That was the beginning of personal mini-room[s] or web-pages for each users … Before deploying the new model, we tried to think about ways to address possible rejections and anger by users … We decided to initiate the new model as an option for those who only want … and additionally, we provided a one-time free coupon where users can experience services." (Director of Cyworld, Jiyong Park, December 9, 2002, *Jungle* magazine) "If you remember Cyworld service, it was meant to be university-club service. If you enter into any university-club, people tend to spend time with like-minded human-beings, rather than with everyone. In this regard, I realized that [in the real world a] university club is just a channel where each person can interact with another … I thought that this can work in the digital space too … If you think about the complementary model, the logic is the same. Cyworld imposed fees on individual users rather than specific groups or communities. People tend to be frugal and stingy on group activities, while actively paying for their individual activities or hobbies." (Director of the Business Planning Division, Lee Ram, April 11, 2016, looking back at her career in Cyworld)*

Notes: SayClub users could purchase premium avatars to display on the messenger. * http://topclass.chosun.com/news/articleView.html?idxno=1482.

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Note: Cyworld users could purchase various items to decorate their personal webpages linked to Nateon.
Source: Images reproduced with permission from Nateon.

Figure 5.1 Complementary premium service offered by Nateon-Cyworld

Facebook and Myspace Entry

In 2004/2005, about a decade after the founding of Internet portals and associated messenger services, two major US-based social networking companies, Facebook and Myspace, were launched with quite different business models from the traditional portals of AOL, Yahoo!, and MSN. The new business models were matchmakers among a community of users. In 2008,

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Table 5.4 Design differences in complementary features

Features	PC-based messenger	Mobile-based messenger
Messaging	Allow instant messaging between PC users. Offers enterprise versions at premium costs.*	Allow instant messengers between mobile users No advertising banner.
Banner advertisements	Users must watch for advertising banners (within the messaging service).	N/A
Emoticons	[Static emoticons] (within the messaging service) Emoticons complement the content of text messaging; they were used to complement text messengers' feelings and emotions.	*[Animated emoticons] – 3rd Emoticons with animated moving images can be substitutes for text messages; users can deliver content without text messages and complement text messengers. *Third-party developers develop diverse emoticons.*
Gaming	[Messengers as chatting applications for gaming] Messengers become chatting applications for already published games. No third parties developed gaming for messenger users.	*[Messengers as gaming intermediaries] – 3rd Messengers introduce new mobile games and allow users to play games together. The game experience is aimed at becoming a part of social interactions and communications. *Third-party developers develop games specifically tailored to messenger users.*
Voice/video chat	[Complementary features for communications] Messenger users can voice and video chat with each other.	Same as PC, but within the messaging service.
Personal webpages	[Personal profile of messenger users] (external portal service) Users can update their social posts (i.e., personal pictures and updates) to show to other messenger users.	Same as PC, but within the messaging service.
E-mail	[Complementary features for communication] Messenger users can also interact via e-mail.	N/A
User radio	[Messengers as broadcasting intermediaries] Messenger users can receive other users' personal radio/music broadcasting.	N/A
Search	[Independent] Central messengers have search banners, and users can search on assigned websites such as Google, Yahoo!, or MSN (linked to external portals).	[Independent/searching for messaging experiences] During messaging, users can search together in the chatting messenger and obtain information together.
Shopping	[Independent] (external portal service) Messenger users can do commercial shopping; a special shopping mall was set up for messenger users.	Messenger users can do commercial shopping for friends and send gifts (internal and external service).
Contents	[Independent] (external portal service) Messenger users post their own novels and animations and share them with other users for free.	*[Independent] – 3rd(external and separate service) Messenger users can purchase professional-level novels and animations. Third-party developers develop content for messenger users.

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Features	PC-based messenger	Mobile-based messenger
Stock	[Independent] Messenger selectively shows stock prices and news.	[Independent] (external and separate services) Messenger platform users can share investment information and make recommendations for each other.
Chatbots/third-party messaging services (plug-in)	[Messenger as a direct channel between commerce and users] – 3rd Messenger allows various commercial companies to interact with users via messaging. Third-party developers develop diverse chatbots and send commercial information to users.	*[Messenger as a direct channel between commerce and users] – 3rd Same as the PC.
Music	N/A	*[Music for personal profiles and sharing] (internal feature) Users can upload premium music to their personal profile pages to express their statuses.
Open market	N/A	*[Independent] Allows users to exchange products and services.
Taxi brokerage	N/A	[Messaging complementary to taxi services] – 3rd(external and separate services) Users can send their ride information to family and friends for their safety. Third-party taxi owners offer taxi-riding services.
Payment	N/A	*[Independent] (internal and external services) Users can store credit card information and make payments in both online and offline stores.
Banking	N/A	*[Independent] (external and separate services) Users can join mobile banking services. Users can save and borrow through messenger banking.

Notes: * indicates the primary source of revenue, *3rd* indicates the involvement of third-party complementors, *underline* indicates the same services with different value creation and capture design between the two generations.

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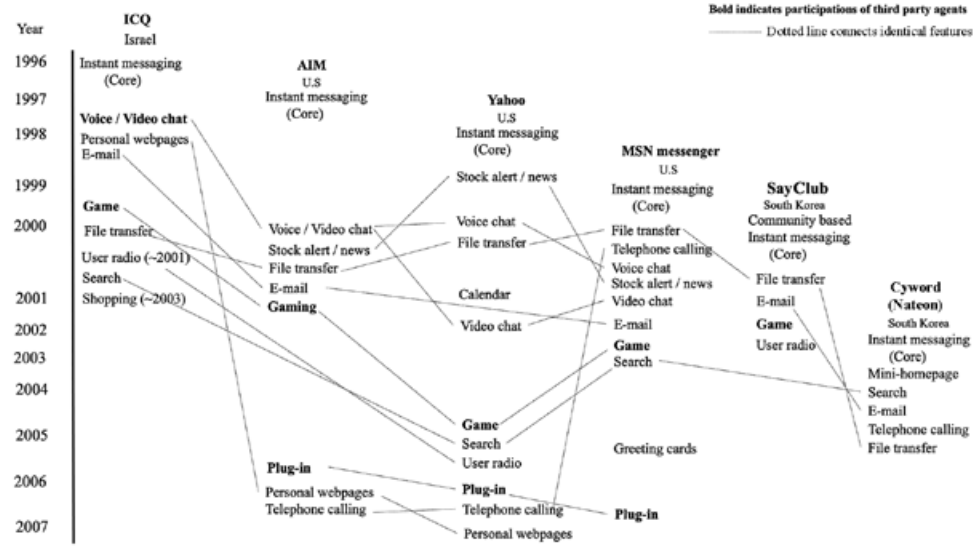

Sources: Author web search from company sites.

Figure 5.2 New service innovations deployed by ICQ, AIM, Yahoo!, and MSN between 1996 and 2007

these firms quickly moved to incorporate messaging services into their platforms. For these new firms, the messenger feature was a natural extension of their matchmaking approach and had the effect of boosting user interactions (aimed at greater user lock-in into their platforms). These social media firms appeared to view the messenger service not as an "extra service" but rather as something integrated into the core offering of the platform. These moves proved to be successful, as Facebook's messenger function became so popular that the platform became a primary destination for online instant messaging during this PC era.

Changes in Technology Regime and the Arrival of Smartphones

With the arrival of widely available smartphones in 2007, the communications industry (seen more broadly than just messenger services) went through significant dynamic changes. Rapid smartphone adoptions worldwide have widely enabled mobile computing and related software applications, including messenger services. The arrival of this technology significantly altered the attractiveness of the messenger service and its functionality. First, because the messenger service could be accessed "everywhere" from the smartphone, it became more attractive and competitive than the traditional mobile text and telephone. Second, because the mobile screen is more compressed, banner advertising became more intrusive to mobile phone users. Third, because of the capabilities of the mobile phone and its connectivity, numerous possibilities for connecting messaging app services to other apps on the phone platform emerged.

The initial effect of the arrival of the smartphone was that the incumbents, namely Facebook, Yahoo!, Microsoft, and others, were encouraged to develop smartphone messenger applications that emulated the PC offer. Initially, these firms did not significantly alter either

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the features of the PC messenger service or the business model approach. This lack of action signaled a closed mindset toward the new technology and its business model possibilities. By contrast, the novel technological platform stimulated wholly new approaches to mobile messenger services, including WhatsApp, WeChat, and KakaoTalk.

WhatsApp

Founded in early 2009, WhatsApp (originally an independent company from Silicon Valley, California, and since 2014, a division of Facebook) adopted a different business model, avoiding advertising and focusing on value-added quality of delivery (e.g., encryption), with monetization through a fee.

The choice of strategy and business model for WhatsApp was a deliberate challenge to incumbents, with its novel construction of what was meant by "service." This novelty of thinking is based on reframing the industry's deeply held assumptions about the messenger offering being a service that complements other services in a portal or social media platform that is offered for "free" within a wider advertising-supported environment, which might include explicit advertisements within the service itself.

The nature of this deliberate challenge to the existing industry order can be gauged by the speeches and statements of Jan Koum, the CEO of WhatsApp. He vocally condemned the industry's commitment to advertising and sought to find new ways to monetize his offering. The following quotation (albeit from 2012) neatly summarizes these views, which were also expressed elsewhere:

> Advertising isn't just the disruption of aesthetics, the insults to your intelligence, and the interruption of your train of thought … Your data isn't even in the picture. We are simply not interested in any of it … When people ask us why we charge for WhatsApp, we say, 'Have you considered the alternative?' (Jan Koum, CEO, WhatsApp Blog, 2012)

WhatsApp initially offered its service for a small positive price of $1 to assure users of an advertising-free environment, a strategy that initially yielded significant revenues. However, the "one-time fee" policy relied on new subscriptions, not continuing users. A little surprisingly, WhatsApp did not expand the suite of WhatsApp services beyond the simple messenger to include voice and video until after it was taken over by Facebook in 2014. After a short time, the fee dropped, and shortly after, WhatsApp was purchased by Facebook, which kept the same business model. This service was kept wholly separate from the core Facebook offering.

Asian Super App KakaoTalk

In this last section on the history of the messenger industry, we discuss the emergence of a wholly new set of actors, the super apps KakaoTalk, Line, and WeChat, with a focus on KakaoTalk. KakaoTalk (the first mover, about which we have the most data) viewed the messenger service as a "portal in its own right"; that is, a portal within a portal, that offered a suite of services where monetization comes by supplying complementary services (rather than advertising; see Figure 5.3). KakaoTalk disrupted the Korean mobile industry by developing the messenger service as a "super app" that challenged the two dominant firms, Apple (iOS) and Google (Android). A super app envelops the platform on which it sits. Super apps offer a suite of services within the mobile-phone-installed app that circumvents the other apps

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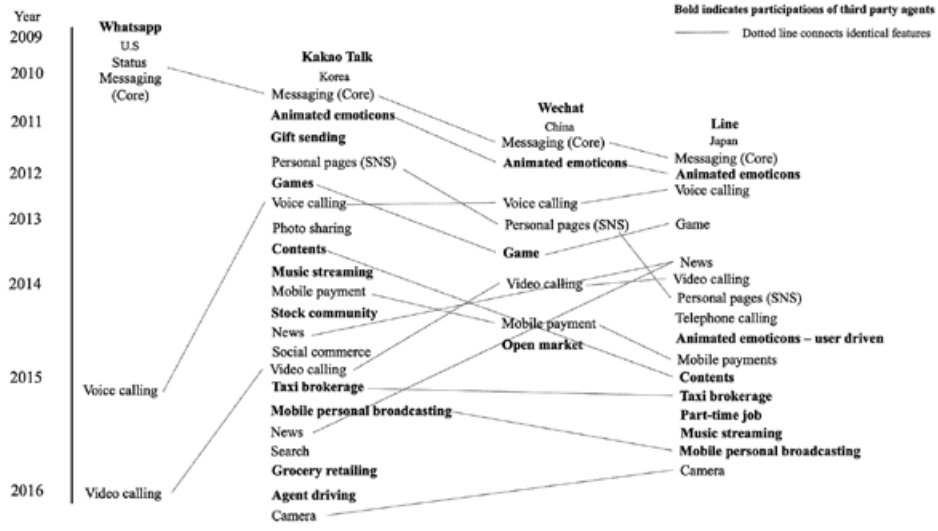
residing in the phone, sometimes disabling the features of the software platform itself. Table 5.5 summarizes the sequence of moves. The ability of super apps to undertake these moves is critically dependent on the fundamental software at the bottom of the stack, which is the software of the ARM chip.



Sources: Author web search from company sites.

Figure 5.3 New service innovations deployed by WhatsApp, KakaoTalk, WeChat, and Line from 2009 to 2016

To understand how KakaoTalk approached the challenge of developing its messenger service, we refer back to our interview with the founder, Lee Jae-Bum, and to public information about the founding of KakaoTalk on its website, supporting interviews with web developers who worked with the company for a long time, and the personal history of Lee Jae-Bum written by Steve J. Min (2021). We suggest that KakaoTalk, led by Lee Jae-Bum, pursued a sophisticated approach to identifying a business model that added value to customers at the same time as creating value for the company. This approach inevitably rejected the "advertising model" as the dominant way of capturing value.

The antecedents of KakaoTalk were a start-up company called IWILAB, which was founded around 2006 by Kim Bum-So, a venture capitalist who himself had started Hangame, a successful online games company. Kim Bum-So hired Lee Jae-Bum along with several others to develop new web-based services for both the United States and Korea. These services were based on various fees and supported by advertising. At the end of 2008, after the success of 3G mobile in the United States, Kim Bum-So directed his team to focus on mobile opportunities. 3G mobiles appeared in Korea by 2009, and Kim Bum-So quickly took the lead in developing a novel messenger app that was launched in March 2001.

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Table 5.5 Details of the KakaoTalk, Line, and WeChat complementor-based business models

Mobile messengers	KakaoTalk	Line	WeChat
Game	Take 20% of revenues from game revenues	Take 35% of total revenues	Take 30%–40% of total revenues
Content	Take 20% of revenues from content sales	Take 20% of revenues from content sales	-
Animated emoticons	Take 28%–35% of revenues from sales (the remaining portion goes to complementors)	Take 35%	Take 30%–60% of total revenues
Shopping	Take 3.5% of revenues	Take 10%–20% of total transaction	-
Gift sending	Take 15%	-	-
Payment	3.5% of mobile payment transaction fees	3.4%–3.5% of mobile payment transaction fees	0.6% transaction fees with stores 0.01% user transaction charges
Part-time matching	-	$75–1,000 weekly posting charge	-
Music	$0.5 per music purchase	$75 monthly subscription fees	-
Hair shop	$50 initial registrations fee and $20 monthly subscription fees for hair salons	-	-
Commercial chatting	$0.015 per message	$24 for the first year $12 yearly charge afterward	$2,000 per business account

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Lee Jae-Bum explained his philosophy concerning how to build a business:

> In my view B2C businesses (need to be developed) in two stages. First, gathering traffic, which means creating a service that people want, and then with that traffic, pursuing monetization … KakaoTalk was the result of 3 years of continuous attempts to develop and create a successful service (that generates traffic). During the initial period, we didn't think of the service as a platform but focused on gathering users with good services.

Lee Jae-Bum had worked for some years before the founding of KakaoTalk in Internet businesses supported by advertising, but even so, he had a sophisticated view concerning the monetization of Internet businesses:

> In 2010, March, KakaoTalk was released for the first time, and within a month we had gathered 1 million users [in a population of 50 million South Koreans]. Because of this rapid growth, we decided to pursue monetization. We initially decided to explore four business models: [monetization by] advertising, commerce, content and gaming. Gaming is a kind of content, but we knew gaming is a big business. We had two guiding principles for monetization … Models that enable cooperating with partners; and models that are well aligned with the central messenger service, that do not [negatively impinge on the] messenger experience.

He continued:

> The "gift" function met the two criteria we set out. Developing the sending of gifts through the messenger function was not easy, and it required a partnership with KT [the Korean Telecommunications company]. [Fortunately] KT Giftshow was already available, so it was a relatively easy task [creating the gift function for the messenger] … Following the gift function, we made several initiatives for commerce, advertising, and content and initiated attempts at several different business models. Although many of these features delivered value to the user, we were not able to reach a break-even point. So my final attempt, I created a new initiative around the game business … The success of the Kakao game was more than my expectation, and this allowed us to find the answer to 'monetization.'

Discussions with Lee Jae-Bum and his colleagues made it clear that they all viewed advertising monetization strategies as value-destroying, especially in a mobile context where screen space is scarce and attention spans are fragile. The opening complementary service of emoticons was obvious for KakaoTalk, as it copied the earlier moves of SayClub and Nateon-Cyworld. However, the identification and mobilization of games, gifts, and other complementary services took much longer and required much more extensive planning, experimentation, and significant investments. Before KakaoTalk found profitable revenue sources, advertising banners were widely speculated to appear on mobile messengers (MTN, 2011). However, as the above-mentioned accounts indicate, KakaoTalk clearly rejects this idea.

In summary, we suggest that the pioneering moves regarding the complementor business model by SayClub (Neowitz) and Nateon-Cyworld (SK Communications) of the PC era were developed and deepened significantly by KakaoTalk in the mobile era. Line from Japan and WeChat (Tencent) from China followed the moves of KakaoTalk. We suggest that these moves were probably partly explicit copying and partly self-development. Murmann and Zhu (2021) claimed that WeChat was a pioneer. However, knowing that Tencent had many financial investments in Internet businesses in South Korea, and some intimate knowledge of KakaoTalk at this time, suggests to us that explicit copying of the pioneering moves of KakaoTalk was an element. These pieces of evidence along with the public quotes shown in

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Table 5.6 suggest that the dominant Korean, Japanese, and Chinese players had complementor business models as their strategic logics.

DISCUSSION

Our exposition of the history of the messenger industry identified two important periods, that related initially to PC technology and then to mobile technology, and the sequences of actions by the leading actors in these two periods. First, a significant number of entrants (especially AOL, Yahoo!, Microsoft, and Myspace) were established digital players diversifying from their existing activities into messenger services. These established digital players typically made choices about business models and strategies that were extensions of their strategies elsewhere in their businesses, choices that are wholly consistent with established theories relating to entrenched corporate logics set out at the start of the paper (Luoma et al., 2022; Tripsas and Gavetti, 2000).

We allocate more space in the history section to some important entrants, with particular emphasis on Neowitz (SayClub) and SK Electronics (Nateon-Cyworld) during the first period, and on WhatsApp and KakoTalk in the second period. These four firms are associated with innovative business models that challenge the existing incumbents, sometimes very successfully. In the first period, that of PCs, two important entrants appeared from Korea, Neowitz (Sayworld) and SK Electronics (Nateon-Cyworld), which were largely local in influence. When one compares the framing of the business model choices of Neowitz with those of the traditional US incumbents, a clear picture of different framings is evident (see Tables 5.7 and 5.8). These Korean firms appeared to react to the fact that copying the incumbents was not possible due to local market conditions, and to be forced to adapt by processes that involved "reframing" through experimentation in a manner indicated by the existing literature (Hannah and Eisenhardt, 2018; Sosna, Trevinyo-Rodríguez, and Velamuri, 2010).

In the second period, two distinctive kinds of challenging entrants emerged. WhatsApp came from within the same community (Silicon Valley) that originated many of the leading digital incumbents. WhatsApp challenged along the lines indicated by Teece (2018), which sensed a new opportunity that was overlooked by the incumbents. However, after the initial success of this entrant (its revenue base quickly exceeded $1 billion), its approach was enveloped to parallel the more traditional actors, and its innovative trajectories were largely terminated. By contrast, the Asian challengers' actions led to some radical and fundamental alterations to the industry. Our probing into the history of KakaoTalk, demonstrably the leader among Asian firms in the mobile era, shows a different kind of approach. From the start, KakaoTalk sought to challenge the existing order. While KakaoTalk clearly engaged in experimentation, that experimentation appeared to be strongly "guided" by a cognitive perspective of challenging the traditional order and establishing a wholly new approach and associated ecosystem. KakaoTalk's revenues quickly grew to $1 billion in a market that was one-fifth the size of the United States, generating as much as $15 in revenues from complementary products for the average customer, signaling remarkable success with a wholly different approach.

In our probing, we clearly recognize many competing suggestions as to how this framing came about. KakaoTalk is based in a community that is far from Silicon Valley physically and culturally but is associated with innovation in the digital domain. In addition, the changing technology landscape facilitated by the arrival of connectivity and more powerful computing

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Table 5.6 Evidence of the cognitive processes of SayClub, Nateon-Cyworld, WhatsApp, KakaoTalk, Line, and WeChat

Messenger	Quotes from top management
Sayclub	"[When creating the avatar-based model] we were also very not sure about the success of [a] cyber avatar based model. However, we were focusing on what our community users really want and how they can express themselves in the cyber community space. Internet technology fundamentally changed how people communicate and express." (Jinhwan Park, CEO of Neowitz, hosting the SayClub service)
Nateon-Cyworld	"[When creating the Cyworld business model] I did not think that people use [the] Internet to extract personal information for commercial purposes. Rather, I focused on the interactive aspects between [human beings] … I noted that when interacting with friends, people usually deliver small gifts to each other and view photo albums together." (Dong Hyung-Lee, creator of Cyworld)
WhatsApp	"Advertising isn't just the disruption of aesthetics, the insults to your intelligence and the interruption of your train of thought … Your data isn't even in the picture. We are simply not interested in any of it … When people ask us why we charge for WhatsApp, we say, 'Have you considered the alternative?'" (Jan Koum, CEO Blog, 2012)
Kakao	"In my view, B2C business mainly in two stages. First, gathering traffic (which means [create] a service that many people want), and second, with the traffic, pursue monetization … With Kakao, thinking that we have already achieved the first stage of gathering user traffics … I pursued monetization. We initially decided to pursue [a] business model (for profit) in four areas: adverts, commerce, contents, and gaming." (KakaoTalk former CEO Jae Bum-Lee)
Line	"Line capture[s] values currently from game[s], emoticons, and advertisements … We can better capture values … because we pursue platform strategies … We do not focus on simple value capture mechanisms such as … advertisements … We will continue to develop business models depending on local contexts." (Chief Marketing Officer Masuda Jun)
WeChat	"[The] major difference between WeChat and other chatting apps is that WeChat is not just chatting, WeChat is a social mobile platform, and WeChat already opened its API to third-party developers; that means any third-party apps can integrate with WeChat, and enjoy the big WeChat user base for their potential growth, as long as your app is welcomed by the users." (Louis Song, WeChat Manager, *Forbes*, 2013) "[When talking about monetization] incubate and accelerate a variety of businesses within the ecosystem." (Managing Director Matthew Brennan, Inkstonenews, 2018)

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Table 5.7 Excerpt of the business model analysis by Nateon-Cyworld executives at the time of new model creation (December 9, 2002)

	Avatar-based model (previous industry-dominant model)	New model (mini-webpage and mini-room)
Advantages	● Identify user identities instantly ● Fun like playing with dolls ● Good integration with website	● Be able to understand users in depth ● Comprehensive and diverse content ● In line with transparencies of communities with private user data ● Can accumulate user histories
Disadvantages	● Masks are not in line with the transparencies of communities ● Not enough content aside from avatars ● Difficult to understand other users in depth ● Now a too-common model, with no room for differentiation	● Relatively large space on the web ● Relatively low intuition and instant configuration ● …

Source: *Jungle Magazine* (translated), https://www.jungle.co.kr/magazine/6946.

also pushed firms to think outside the traditional industry's way of thinking. Our attempt to probe the antecedents of this thinking suggests a thorough pattern of intensive research, and interviews failed to come up with a single explanation. Multiple factors appear to be at work.

Effectuation and Cognition

Our Korean messenger firms provide good examples of effectuation strategies emphasized by Nambisan, Wright, and Feldman (2019) and Sarasvathy (2001). Mobile technology unlocked new possibilities, and firms became increasingly less bounded by space and time restrictions for value creation and capture, which have been primary concerns for brick-and-mortar businesses, reinforcing the point made by Baum, Locke, and Kirkpatrick (1998) and Kaplan (2011). Although the initial services lack both quality and quantity, they often found popular acceptance by users and successfully scaled up within 1–2 years. This approach and growth rate were difficult to imagine for non-digital businesses (Nambisan, Lyytinen, Majchrzak, and Song, 2017). Non-digital businesses often necessitate manufacturing facilities, R&D results, and marketing channels, which usually require prolonged periods before commercializing products and services. Careful planning and expert market research that signify customer adoptions have been prerequisites before commercialization (Brown and Eisenhardt, 1995). The conventional approach is thus to expect customer demand based on currently available and known information for the new product and assess the product–market fit accordingly (Kirzner, 1973; Shane, 2000). In this regard, the differences between digital and non-digital contexts become more vivid and clear.

Our contribution to the literature is our focus on the business model dimension of strategy and giving some granularity to effectuation strategies and their boundaries and drivers.

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Table 5.8 Evidence of the cognitive processes of ICQ, AOL (AIM), Yahoo!, and Microsoft (MSN)

Messenger	Quotes from top management
ICQ	"We have a central belief in the company that this [ICQ] is a social medium … build this as a medium, make this central and as a utility, make it [as] central in people's life as the telephone and the television, but with more value […] This year is really a year to [turn] that time online into page views, page views into impressions, and impressions into dollars." (Ted Leonsis, Former AOL President, BancBoston Robertson Stephens Tech 1999 Conference, CNET, 2002)
AIM	"My biggest job as a manager was to keep AIM alive internally, because every single executive vice president wanted to shut it down and kill it. They could not understand the concept of giving away for free something that was of real value to the paying subscriber base. […] Despite the effort … never sold a dollar of ad space." (Bosco, former manager of AIM messenger, Mashable, 2014)
Yahoo!	"As the number of our users has grown, so has our audience's appeal to major advertisers. To maximize this opportunity, we've developed new ways for marketing partners to integrate their messages into our communications products … Yahoo! Communications displayed five billion of these high-impact ads during the fourth quarter alone." (Yahoo! Annual Report, 2001)
MSN	"Communications continues to be the cornerstone of the Internet, and instant messaging is becoming a more prevalent way for people to communicate … We are excited to deliver our easy-to-use MSN Messenger Service to enable consumers to communicate with as many people as possible." (Brad Chase, Vice President of the Consumer and Commerce Group at Microsoft, Microsoft News, 1999) "The premise in the early noughties was that the context in advertising was everything and that a social platform [where audience targeting was built on user data rather than on content context] could not be effective as a branding medium." (Chris Dobson, Former Vice President of Microsoft; Marketing Society, 2018)

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CONCLUSIONS

The aim of our study was to probe the connections between business model thinking, technology, and cognition in the context of the messenger industry. We aimed to show that technology has a key role in this dimension and that the critical issue has been not digital compared with non-digital, but mobile compared with digital. Mobile technology has unlocked new business model possibilities, particularly those of monetization via complementors. In this industry, Korean firms, namely SayClub, Nateon-Cyworld, and, critically, KakaoTalk, unlocked the new business models through the development of complementor-based super apps. Surprisingly, the US messenger firms have not copied the innovations of Korean, Japanese, and Chinese firms, but this is yet to be fully explained. Our hint is that US firms have been blinded by corporate inertia and that new possibilities have been ignored, indicating policy questions and worries about the role of corporate inertia among some of the leading US digital firms.

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NOTES

1. We are using "Korea" to refer to South Korea.
2. The technological development of instant messaging predates the commercial launch by many years: in the mid-1960s, the MIT Computation Center created the project called Compatible Time-sharing System, which allowed up to 30 users to send messages to each other.

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