



Measuring platform return on participation

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Platform onboarding

Abstract While industry platforms can transform industries and drive the digital economy, little guidance exists to help managers decide which industry platform to join. Derived from industry research, we propose a six-step return-on-participation (ROP) method that enables managers to clearly and logically review how their firms are affected by a platform, what the benefits are, how current and future variable and fixed costs vary, as well as the often-hidden joining costs. We suggest this technique could also be used by managers to compare competing platforms and by platform owners to evaluate the attractiveness of their offerings.

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1. The advent of the platform economy

Platform-based markets are transforming the ways organizations generate and deliver value (Autio & Thomas, 2020; de Oliveira & Cortimiglia, 2017; Thomas et al., 2014). Firms that adopt a platform-based model, and that derive more than half of their revenues from that platform, have both higher revenue growth and profit margins than firms with product-based models (Weill & Woerner, 2013). In 2016 the global market size of the

platform economy was estimated at US \$4.3 trillion (Evans & Gawer, 2016), a market that was estimated by KPMG to have increased in 2018 to US \$7.18 trillion (Consultancy.org, 2018). When asked about the benefits of a platform-based model, chief strategy officers point to the ability to offer greater value to customers, to growing their business through network effects, and to creating a more effective business structure than their peers (Lacy et al., 2016).

For industrial firms, industry platforms are a type of transaction platform that enable participants to exchange goods, services and information, and that thus create value by enabling exchanges that would not otherwise occur (Cusumano et al., 2020). In contrast to consumer-

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oriented transaction platforms, such as Apple, Facebook and Amazon, which aim to facilitate consumer transactions, industry platforms primarily have a business-to-business goal of bringing performance, productivity, and prediction improvements to participants (Gawer & Cusumano, 2014; Thomas et al., 2014). For instance, TradeLens (2020) empowers businesses and authorities along the supply chain with a single, secure source of shipping data, enabling more efficient global trade. IBM Food Trust (n.d.) benefits growers, shippers, retailers, and regulators by providing a safer, smarter, and more sustainable food ecosystem.¹ Leveraging digital technologies, these industry platforms become more useful the more participants and functions that are available (Cusumano et al., 2020).

As a consequence of these platforms' increasing economic importance, there has been a deluge of managerial guidance. Some scholars have distinguished between platform-based and traditional business models—referred to as platform and pipeline business models, respectively (Van Alstyne et al., 2016)—and others have focused on the scale of the potential industry disruption that a transformation to platform-based competition entails (Hagiu & Yoffie, 2009; Vazquez Sampere, 2016). The majority of managerial guidance has centered around helping managers with their own platforms, such as proposing strategies to “find the platform in your product” (Hagiu & Altman, 2017), to formulate a platform strategy (Jacobides, 2019), to encourage participants to join their platforms (Ihrig & Macmillan, 2017), and how to manage an existing platform (Cusumano & Gawer, 2002).

While all this advice has undoubtedly been welcome, there has been little in the way of guidance for managers of *participant companies* in deciding which industry platform to join. Drawing from industry experience, interviews, and case studies, in this article we propose a six-step method that enables managers to clearly and logically assess the return on participation (ROP) on an industry platform. To illustrate the steps, we consider a hypothetical industry platform called TradeFinance. We also provide practitioner insights in applying the method, as well as showing how our method can be used by managers to compare competing platforms and by platform

owners to evaluate the attractiveness of their offerings.

2. The need to understand platform return on participation

Industry platforms are technologies that mediate between disparate parties to enable scale and transaction benefits to those who participate (Gawer & Cusumano, 2014; Lacy et al., 2016; Thomas et al., 2014). For instance, by joining an industry platform, firms can gain access to different resources, identify new opportunities, and theoretically respond quickly to fast-changing market needs (Battistella et al., 2017; Gulati et al., 2000). The services offered by many of these industry platforms also aim to help participants to internationalize their businesses faster and more efficiently (Jin & Hurd, 2018; Mika, 2020). For instance, Jin and Hurd (2018) show how digital platforms can ease entry barriers by helping to overcome resource constraints and by facilitating access to trade networks. Often they do so by creating a transparent, secure environment that matches transaction opportunities and growth.

While industry platforms can transform industries and drive changes within the digital economy (Jacobides et al., 2019), it is not entirely clear that industry platforms enable all who join to turn a profit (Cutolo & Kenney, 2020; Knee, 2018; Zahra & Nambisan, 2012). Scholars are now suggesting that it is getting harder and harder to capture and monetize the potential of platforms (Cusumano et al., 2020). For instance, not all platforms exhibit network effects, and for every successful platform, there are numerous network-effect-dependent firms operating in crowded sectors where it is not always clear that anyone will turn a profit (Knee, 2018). Indeed, research suggests that when many firms participate on more than one platform—called *multihoming*—network effects can diminish or even disappear (Bakos & Halaburda, 2020). Furthermore, joining a platform means that firms risk unilateral changes to their terms of participation, customer disintermediation, opaque recommendation algorithms, potential entry of the platform owner into their business, and the risk of delisting and loss of market access (Cutolo & Kenney, 2020). Others have pointed out that to benefit from platform opportunities, firms need to have specific capabilities in regard to partnering, customer relationships, and business process management that might not be easy to acquire (Mika, 2020; Zahra & Nambisan, 2012).

¹ Other examples of industry platforms include WeTrade (<https://we-trade.com/>), Marco Polo (<https://www.marcopolo.finance/>), and eTradeConnect (<https://www.etradeconnect.net/>).

Thus, making the decision to join an industry platform is not easy. While these platforms promise much, their benefits and costs are not necessarily clear. Industry platforms tend to operate in novel ways that are different from current ways of doing business (Cennamo & Santaló, 2015); indeed, that is how they find their efficiencies—by enabling new economies of production and transaction (Thomas et al., 2014). Consequently, how they deliver their services does not necessarily align with how a potential participant currently operates. For instance, the way an industry platform delivers financing services may be very different from the current financing processes within a firm.

Given that their benefits and costs are not straightforward to understand, it is difficult to clearly measure the financial return to a firm thinking of joining an industry platform. While the basic economic concepts of return on investment (ROI) appear in introductory corporate finance books (Ross et al., 2015), it is now known that understanding the ROI of digital services, such as software, is more challenging (Erdogmus et al., 2004; Misra & Mondal, 2011). But while there have been substantive efforts to understand the metrics and the translation of software into monetary terms, much less has been done to link digital services, and in particular platforms, with ROI (Adner, 2006; Erdogmus et al., 2004). Understanding platform participation requires a multi-dimensional view of ROI that includes the up-front and ongoing costs, scale effects, and more general benefits—such as reputation—and costs—such as the potential loss of strategic autonomy—that accrue from the use of platform-provided services (Misra & Mondal, 2011).

Essentially, traditional measures of ROI need to be adapted to provide a holistic view of what it means to participate in an industry platform. What is required is a more nuanced, practical approach for managers to better scrutinize the offerings of industry platforms. Managers need to understand how to choose between platforms and the level of investment that makes sense. Put differently, managers need to be able to better measure the costs and benefits of joining an industry platform. How, then, should managers decide which industry platform to join? In the following sections, we illustrate how to answer just that question.

3. Data and method

Our data included roundtable discussions, individual interviews, and descriptive cases (see Table 1).

Table 1. Data sources

Data source	Count
<i>Interviews</i>	
Platform industry leader roundtables	9
Roundtable participants	23
Individual interviews	36
<i>Delphi participants</i>	
Academics, consultants, and industry executives	11
<i>Archival case sources</i>	
Press releases	16
Technical specifications	8
Partnership and alliance proposals	9
Growth analyses	5
Business cases	9
Media articles (e.g., <i>Financial Times</i>)	28

Undertaken by the first author between 2018 and 2019, the roundtable discussions focused on sharing insights about industry platform business models with 23 of IBM's designated industry leaders. During the same period, the first author interviewed 14 IBM management consultants actively working with clients facing platform adoption decisions, and the second author discussed the challenges of platform participant engagement with 22 senior executives from a variety of industrial firms. Industries represented in both the roundtable discussions and individual interviews included financial services (banking and insurance), automobile, energy, retail, healthcare, and government.

The descriptive cases covered five active industry platforms: a platform that simplifies the process for buyers and sellers to trade globally; a supply-chain platform that reduces trade friction through information sharing and collaboration; a European platform for open health insurance; a global food-distribution platform; and a platform that enables settlement of foreign exchange trades. For each descriptive case, archival data was collected, including press releases, technical specifications, partnership proposals, growth analyses, and business cases, and compiled into a descriptive overview. As the first two platforms had competitors, archival data collection included their publicly available information.

We analyzed the roundtable, interview, and case data to determine the impact of platform

goals, partnership strategies, monetization approaches, growth trajectories, and value creation dynamics for owners, complementors, and participants. As the case data were collected concurrently with the interviews, their interpretation was discussed with roundtable participants. The authors developed the concept of ROP in an abductive process of iterative conceptual development and validation with data until a coherent method emerged (Paavola, 2004). An important part of this abductive process was ensuring the emerging ROP method was grounded in the case data, in the practitioner insights evinced in roundtables and interviews, and in the theory of ROI (Dubois & Gadde, 2002). The third author then validated our emergent ROP method using a Delphi study (Okoli & Pawlowski, 2004) that called upon 11 independent academics, consultants, and industry executives.

To illustrate our six-step method of platform ROP, we use data for a hypothetical industry platform called TradeFinance, which is loosely based on the real-world examples of WeTrade, Marco Polo, and eTrade Connect. Figure 1 presents a visual schematic of our illustrative TradeFinance platform. TradeFinance offers a service that enables participants to find international trade partners, as well as assisting in acquiring international trade finance. It does this by offering a database that firms can search to find a trade partner in another country. The platform also enables participants as buyers and sellers to contract with one another using standardized terms. The TradeFinance platform also offers financing of international trade to both parties using pre-approved, affiliated banks in each country. Overall, a platform like TradeFinance promises

participants a greater selection of partners, less hassle with trade contracts, and easier access to trade finance (see Jin & Hurd, 2018; Mika, 2020).

4. Industry platform ROP

4.1. Step 1: Research the platform offering in the context of the business

The first step to calculating a platform ROP is for managers to rigorously research the platform offering in the context of their own way of doing business. This often requires a careful analysis of how the platform delivers its services and a mapping to the current processes in the manager's firm. The output here should be a list of the processes within the focal firm that would be affected by joining the platform. To achieve this, managers need to ask themselves how the platform offering maps onto their business processes and what impact this could have.

For instance, the TradeFinance platform would affect three business processes: partner selection, trade execution, and financing. Each of these processes has activities that may be affected by the move to the platform. For instance, partner selection involves the activities of identification (how to do you find parties to trade with?), due diligence (what do you know about these parties?), and shortlisting (which parties are we most interested in dealing with?). Similarly, trade execution involves the activities of contracting, shipping goods, invoicing, acknowledgement of delivery, and transferring funds. The process of financing has its own range of activities. Table 2 shows how much effort it would take the firm to move to the platform, and it offers an early-stage assessment of the benefits.

Figure 1. Example of TradeFinance platform

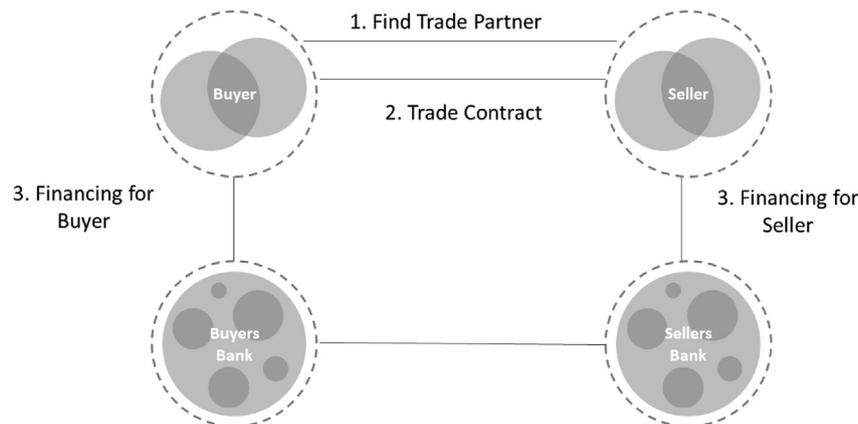


Table 2. Example of mapping the platform to business processes

Process	Activity	Firm effort estimations	
		Effort required to adopt	Business benefit of platform
Party selection			
	Partner identification	Low	High
	Due diligence	Low	Medium
	Shortlisting	Low	Low
Trade execution			
	Agree contract terms	Low	Low
	Create contract	High	High
	Goods shipped	Low	Low
	Invoicing	High	High
	Acknowledge delivery	Low	Low
	Transfer funds	Low	High
Financing			
	Contacting bank	Low	Medium
	Agree terms	Low	High

Practitioner experience shows that in order to map industry platform services to existing business processes, managers must identify the base unit for comparison (see Parker et al., 2016) so as to be able to compare like with like. This may involve rethinking their firm so that they can usefully contrast existing processes with those of the platform. Perhaps perplexingly, practitioner experience also suggests that while there is often public information about how platform services are delivered, the actual practicalities of working with a platform service are often opaque, so managers may need to engage with the platform to understand how their service works. Furthermore, other aspects of the platform need to be considered, such as information security and data ethics, and these will need to be reviewed to ensure that the platform meets its particular regulatory environment’s requirements.

4.2. Step 2: Calculate the platform benefits and costs for each process

The second step requires managers to understand the benefits that the platform would bring for each

Table 3. Example of identifying operating costs (trade execution)

Trade execution	Firm effort estimations		
	As-is	% reduction	To-be
<i>Transaction tasks (hours)</i>			
Agree contract terms	5	0%	5
Create contract	10	90%	1
Goods shipped	2	0%	2
Invoicing	4	75%	1
Acknowledge delivery	1	75%	0.25
Transfer funds	1	100%	0
Tracking trade	7	50%	3.5
Managing errors, disputes, fraud	6	25%	3.75
Reporting	5	50%	2.7
<i>Total time</i>	<i>40</i>		<i>19</i>
Cost per hour (\$)	25		25
<i>Total cost</i>	<i>1,000</i>		<i>475</i>
<i>Implied process savings</i>			<i>52.5%</i>

process that it would impact. To do so, they need to evaluate each process. When firms have activity-based costing, this should be fairly straightforward, as activity-based costing tends to consider processes (Tornberg et al., 2002). But as platform-provided services often differ from the current ways of doing business, care needs to be taken to fully understand how the current processes relate to the platform-provided services. Furthermore, adoption of the platform may require the instantiation of wholly new processes within the firm. These can be added to the analysis at this time.

To continue the TradeFinance example, managers need to consider the company’s current operating costs and how they will change with the new platform. Presented in Table 3 is an example of how the TradeFinance platform influences trade execution. For instance, the firm expects to see a 90% improvement in contract creation, as well as a 50% improvement in tracking and reporting the trades. These kinds of reductions to operating cost can be assumed through reduced administration due to digitization of supply-chain processes. This analysis suggests that moving to TradeFinance would result in a 52.5% savings over existing operating costs for trade execution.

Managers then should systematically evaluate the variable costs for each process that the

Table 4. Example of calculating per-trade variable costs

	Party selection		Trade execution		Financing	
	As-Is	To-Be	As-Is	To-Be	As-Is	To-Be
<i>Per trade</i>						
Average trade value	30,000	30,000	30,000	30,000	30,000	30,000
Transaction charge/commission (%)	0	0	3.0%	2.0%	3.0%	1.5%
Transaction charge	0	0	900	600	900	450
Operating costs *	300	150	1,000	475	200	100
Comparative per-trade costs (\$)	300	150	1,900	1,075	1,100	550
<i>Comparative benefit per trade (\$)</i>	-	150	-	825	-	550
<i>Comparative saving per trade (%)</i>		50%		43.4%		50%
Overall saving per combined trade				47.8%		

* Calculated in Table 2 for trade execution, estimated separately for other processes.

platform affects. While some are quite obvious, managers need to recognize that there are always other costs that are not immediately apparent from using the platform. An example here includes transaction costs for using the platform—such as commission or transaction fees—which are sometimes called platform taxes. For instance, Table 4 presents the per-trade impact of moving to the TradeFinance platform, illustrating the as-is and to-be differences for an individual trade. This shows that moving to the platform presents a comparative benefit for all three processes, which averages to a 47.8% cost savings for the to-be process over the as-is process.

Practitioner experience suggests that some costs are not necessarily publicly advertised on industry platforms, as they may be tailored for different clients. Indeed, some industry platforms may have different terms for different participants—often part of their cross-subsidization to encourage adoption—and some participants may have different terms for other participants. Thus, it is critical to understand who pays for what and who does not pay. For instance, to take our TradeFinance example, if there are 10 or more banks, in all likelihood they would be competing to supply financial services to participants and may offer a range of terms and pricing models. Experience suggests that to determine the real cost structure, managers may need to engage with the platform and to use ROP modeling as a structured cost-research method.

4.3. Step 3: Estimate the scale effects for each process

From this baseline, managers can then seek to understand the volumes for each process and any potential scale effects, as up to this point, they have been considering individual transactions. For instance, volume can increase because of the automation or prediction services provided by the platform; increasing volumes may offer scale-based cost reductions (see Thomas et al., 2014). Depending on the platform, the firm, and the proposed services, the scale effect can be derived by using the estimated growth of the platform and the firm’s target share of that market, perhaps derived from its strategic plan.

For our TradeFinance example, in Table 5 we show that the as-is is typified by slow organic growth, while the to-be assumes a small increase for the 1st year, and then a rapid volume increase in the subsequent years, slowing after 3 to 4 years. Furthermore, the firm can take advantage

of scale discounts, which consist of a 5% discount on the cost of trade execution and a 2% discount on the cost of trade financing when there are more than 10 trades per year.

Practitioner experience suggests that this step can be complex, as scale effects are multidimensional in the sense that while volumes and scale discounts may increase with the automation and prediction that the platform offers, effort will also increase, and not necessarily proportionally with the increased volume. Given these complexities, it is vital for managers to understand clearly how a platform tax would affect them as they grow. Relatedly, there may come additional volume increases as market confidence grows and the platform matures, which can be further supercharged by network effects, but which may also lead to performance bottlenecks. As such, the manager should take conservative estimates and be realistic about the potential growth of both benefits and costs.

4.4. Step 4: Determine the one-off costs of platform onboarding

The fourth step requires managers to systematically consider the various one-off costs of joining the platform, and who pays them. Joining a platform is never cost-free, as participating in a platform can have implications across many parts of the firm, including sales, marketing, operations, technology, and finance. Examples of such costs include software integration, organizational restructuring, and training, as well as platform-specific costs (Mika, 2020). While some of these

costs will be accrued upon joining the platform, other resources and capabilities could potentially be built up over a number of years. These onboarding estimates are usually specific to a firm, influenced by such factors as purpose of platform, firm size, and potential platform throughput, as well as the capacity, flexibility, and robustness of existing resources and capabilities. Furthermore, there should also be a consideration of cost amortization over several years, particularly if hardware investments are required.

To continue our example of TradeFinance, we assume that these onboarding costs consist of both adaptation to the new platform as well as the relevant administration involved in moving to the platform. The initial effort to understand these has already been done in Step 1, through the assessment of adoption effort (see Table 2). For instance, adapting to the platform could consist of upgrading the IT infrastructure, integrating existing internal software to the platform, staff training, and restructuring the trade execution team and internal processes. Onboarding administration could include validating company registration, anti-money laundering compliance, and creditworthiness and other background checks. For our example, we have assigned a total of \$25,000 in costs.

Practitioner research indicates that onboarding costs can often be a showstopper for smaller firms. Our research suggests that managers should seek out the enablers that platform owners often offer to ease the pain of joining. For instance, there are often options for various levels of onboarding support, such as self-guided, virtually guided,

Table 5. Example of estimating scale effects

Trades per year	Y1	Y2	Y3	Y4	Y5	Assumption
<i>Party selection</i>						
As-is	6	7	8	9	10	Slow organic growth
To-be	7	10	13	15	17	Quick scale effect that slows
Scale discount	0%	0%	0%	0%	0%	Applies at more than 20 trades p.a.
<i>Trade execution</i>						
As-is	4	5	6	7	8	Slow organic growth
To-be	6	8	10	13	15	Quick scale effect that slows
Scale discount	0%	0%	5%	5%	5%	Applies at more than 10 trades p.a.
<i>Financing</i>						
As-is	3	3	4	5	6	Slow organic growth
To-be	5	7	9	11	13	Assume most financed on platform
Scale discount	0%	0%	0%	2%	2%	Applies at more than 10 trades p.a.

assisted onboarding, and pricing-model options for different types and sizes of firms.

4.5. Step 5: Evaluate the annual benefits and costs of platform participation

The fifth step requires managers to systematically evaluate the annual fixed costs and benefits that result from adopting the platform. Given the nature of industry platforms, in addition to thinking linearly about how individual processes are affected, it is important for the manager to reflect on what it means to be part of such an industry platform ecosystem. On the one hand, joining an industry platform can yield benefits, as it results in access to a broad set of actors—such as potential partners, buyers, sellers, complementors, and customers—as well as to capabilities, expertise, and reputation that may not have previously been available. On the other hand, joining a platform also entails acquiescing to a relationship with the platform owner typified by power imbalance (Cutolo & Kenney, 2020), where the platform owner establishes who is allowed to do what, how decisions are made, who owns the data, how security is implemented, and the design and application of intellectual property and ethical policies. While conceptualizing the effects of joining an industry platform can be complex, these impacts can usually be analyzed through the categories of cost, risk, revenue, and reputation (Lin & Lin, 2016).

Platform owners have many ways of extracting value from a platform. Many recurring costs are often straightforward to identify, such as membership fees, where the platform owner charges for the right to be on the platform; relationship maintenance; and technological costs, such as API or connection costs (Rochet & Tirole, 2006). In terms of our TradeFinance example, let us assume this to be an annual flat fee of US \$1,000 in order to participate. Other costs may be intangible, such as reduced strategic flexibility due to a dependence on third-party platform processes, or reduced access to transaction data as the transactions are now occurring through the platform, not internally within the firm. While these types of costs are difficult to estimate, skilled managers could use costing techniques such as opportunity cost analysis here.

A holistic consideration of annual benefits is not also complex. The technique here is to work backward from the processes that have been identified in Step 2 and then to see what additional annual benefits can be identified from the adoption of the platform. To continue our TradeFinance

example, for the process of trade execution, platform use could have the effect of reducing the overall risks of trade. If one trade in every 3 years has the potential to be a loss, then this represents \$10,000 a year in loss avoidance. An additional annual benefit is the increased cash flow due to moving the financing process onto the platform, allowing increased investment and a 3% annual decrease in operating costs. Another example benefit could be new revenue due to the development of an innovative new service that was previously not possible.² Yet another example could be an increased reputational effect of being on the platform that leads to an increase in average trade size or decrease in commissions charged by unrelated third parties.²

Our research indicates that practitioners can find these potential costs and benefits quite difficult to identify, unless they have already felt the pain of losses due to a bad experience or had their reputation questioned. Experience suggests that it is helpful to think about these costs and benefits through the lenses of innovation, process improvement, service costs, and strategy. Indeed, sometimes there are proof points a platform owner can assist with, such as service cost discounts for scale, or process improvement case studies. To ensure that issues with identifying these do not derail the ROP modeling process, practitioners usually classify these as “extra supporting” costs and benefits rather than as elements that are integral to model—which is why we put them in their own step—so their identification and quantification don’t directly drive the ROP calculation.

4.6. Step 6: Calculate the platform ROP and breakeven

Finally, in the sixth step, the manager can calculate their ROP, applying the insights and the various cost and benefit values they have generated. ROP follows the standard formulation of ROI (Ross et al., 2015), calculated by deducting the overall benefits (including process, scale effects, and annual) from the overall costs (to-be process costs + onboarding costs + annual costs) divided by the overall costs. While the initial headline or per-process cost savings can appear to be quite considerable, often the overall benefits offered by a platform are not that compelling when the ROP is calculated. More sophisticated analyses could discount the cash flows with the firm’s cost of capital.

² This example is not covered in the TradeFinance scenario.

Table 6 presents our ROP calculation. While the initial 47.8% cost savings that the platform offered for the three services seemed to be compelling (Table 3), when the additional annual and onboarding costs are included, and when scaling and discounting effects are taken into account, the TradeFinance platform no longer seems a good candidate for our example firm (the internal rate of return over 5 years is -10.1%). Indeed, the annual ROP decreases each year, suggesting that as the firm uses the platform more, the scale discounts do not offset the costs of the added trades, suggesting the platform tax is too high.

Practitioner experience suggests that ROP modeling is not an exact science, and managers need to be aware they will need to make judgment calls and estimations. If they are uncomfortable with aspects of their ROP model, it is better to be more conservative with the costs and benefits to improve confidence. Modeling several scenarios—such as the best case, a highly conservative case, and the most likely case—can also help to build confidence in the model. In fact, experience suggests that it is the iterative process of refining the model over time and building differing scenarios that can often bring the greatest understanding.

5. Implications of platform ROP

In this article, we have proposed a six-step method that enables managers to clearly and logically assess the ROP in an industry platform. These steps provide a clear and easy-to-follow process for managers to logically review how their firms are affected, what the benefits are, and how variable and fixed costs vary, as well as the myriad of often hidden joining costs. This technique can be used by managers to compare competing platforms, and by the platform owners to evaluate the attractiveness of their offerings.

5.1. Comparing competing platforms

One challenge that managers have is comparing competing platform offerings. This becomes easier once the manager has calculated the ROP for a platform candidate, as they can leverage the effort they have already put in on Steps 1 and 2 to analyze subsequent platform candidates. At each stage of our six-step method, managers are able to compare platforms, evaluating which internal processes within their business are affected, the likely effort required to adopt the platform, and the effect of increasing their use of the platform.

Table 6. Example of calculating platform ROP and breakeven

	Year 1	Year 2	Year 3	Year 4	Year 5
<i>Process benefits</i>					
Party selection	1,050	1,500	1,950	2,250	2,550
Trade execution	4,950	6,600	8,250	10,725	12,375
Financing	2,750	3,850	4,950	6,050	7,150
Scale effect	0	0	215	280	323
<i>Annual benefits</i>					
Loss avoidance	10,000	10,000	10,000	10,000	10,000
Cost reductions	308	419	530	668	775
Total benefits	19,058	22,369	26,217	30,513	33,799
<i>To-be process costs</i>					
Party selection	1,050	1,500	1,950	2,250	2,550
Trade execution	6,450	8,600	10,750	13,975	16,125
Financing	2,750	3,850	4,950	6,050	7,150
Annual costs	1,000	1,000	1,000	1,000	1,000
Onboarding	25,000	0	0	0	0
Total costs	25,750	14,450	18,150	22,775	26,325
Annual ROP	-47.4%	49.6%	44.7%	35.2%	29.9%
<i>Year-to-date ROP</i>	-47.4%	-19.1%	-2.4%	6.8%	11.9%
<i>Breakeven</i>	-17,193	-9,774	-1,670	6,267	14,048

From this baseline, they can then systematically compare the platform's variable and fixed benefits and costs, one-off costs and benefits, and the annualized costs and benefits that derive from being an ecosystem participant.

Once managers have calculated the different costs of competing platforms, they can begin to consider whether they should multihome by joining more than one. On the one hand, multihoming may broaden their demand or supply dynamics, as well as reduce the risk of an unhealthy reliance on a single platform (Cutolo & Kenney, 2020). On the other hand, they also need to consider the costs of participating in two or more industry platforms: Are there efficiencies that can be found in multihoming, or would there be cost duplications that make it untenable?

Our advice here is to do a simple sanity test: Step back and ask whether the platform value proposition makes sense for the entire ecosystem, and whether all participants are getting fair value from it (see Autio & Thomas, 2020). By understanding where the true cost reductions and additional benefits lie for any particular platform, managers can begin to assess which types of participants the platform will attract, which ones are likely to join, and whether they will multihome. It could also help managers assess the implications should the platform fail to attract the right participants, or should all participants multihome, thereby potentially reducing or eliminating network effects (see Bakos & Halaburda, 2020). For example, our TradeFinance example only works if there is a sufficient volume of participants that wish to trade.

5.2. The platform owner's perspective

While the exposition above is the inside-out view of a participant, our method can also be reversed for a platform owner to understand the outside-in view from the perspective of a participant. By understanding the ROP for participants, platform owners can assist participants in understanding the switching costs they may have to pay in order to adopt. In particular, these same steps can be used upon launching a platform to help define a fair monetization model. They could also be used to explore tipping points—the point at which the platform starts to break even or to capture parts of the market. For instance, by experimenting with different revenue models, a platform owner can start to understand the potential value their platform can have to participants and where choke points may be. In the TradeFinance example above, the platform owner should consider

increasing the scale discounts to ensure the attractiveness of the platform for participants as they grow.

Practitioner experience suggests that for platform owners to be able to realize such insights, they need to create multiple ROP models for all the different participants they wish to engage with—potential ecosystem participants will vary by industry, role, size, and location (see Thomas & Autio, 2020)—meaning perhaps dozens of ROP models. This is particularly relevant when there is a transaction flow between multiple participants in the platforms. For instance, in retail supply-chain platforms, the participants are linearly sequenced with different usage models characterized by different costs. This results in varying benefit levels for each participant, and in some cases, a participant may only get limited benefit from the platform but be required for platform success. Thus, understanding the value dynamics of each participant may be crucial for understanding how the whole platform will succeed.

5.3. Further practitioner insights

As well as providing a simple ROI-based measure to assist managers in choosing which platform to join, our method also has potential strategic uses beyond this. For instance, our research suggests that managers should begin small, optimally on a trial basis, to better understand the costs and benefits. This will help to answer such questions as: Where will I achieve most value? What is the minimum I need to do to achieve value? Where are my bottlenecks? How fast could I adopt? Even once some answers to these questions begin to emerge, experience suggests it is better to engage incrementally, particularly if the platform is fairly new and network effects have not yet affected its scale. An incremental approach enables a continuous assessment of platform engagement in the context of the strategic plans of the business. By understanding how their business fits to the industry platform, managers can begin to understand what future constraints or opportunities an industry platform can offer, as well as estimating the risks of overreliance on platform services. Indeed, practitioner experience suggests that the ROP calculation is only the start of platform engagement, and managers can use the model as basis for negotiation with the platform owner.

But there remain some important strategic questions that our ROP measure only provides indirect, if any, support in addressing. For instance, our ROP measure assumes that platform costs—such as commissions and membership

fees—do not change over the time period of the ROP calculation. But at some point, pricing strategies designed to drive platform growth—such as cross-subsidization—will change, and new pricing structures will be implemented. This is where an understanding of who pays for what and who does not pay becomes useful in assessing potential future pricing (e.g., as levels of cross-subsidization change). Another important strategic issue that managers need to consider is the nature of the platform operating principles, and whether they can influence the future platform ecosystem roadmap. For instance, while we have assumed a traditional centralized digital platform for our ROP method above, some industry platforms use decentralized blockchain technologies to support interfirm coordination that result in different levels of control (Jensen et al., 2019; Lacity, 2018). Such blockchain-based arrangements can offer the opportunity to be a member of the governing consortium rather than a participant, although this would then require that many additional factors be considered as part of any ROP calculation. Understanding these broader strategic issues requires managers to undertake thorough and comprehensive research into the industry platform.

To conclude, the decision for a manager thinking of joining an industry platform is not binary: Should I go or not go? Managers need to ask themselves: Which platform is the right platform? To what level should I participate? When is the right time to jump? What is the downside of not participating? We hope that our approach assists managers in starting to address these important questions and in choosing the right industry platform for their business.

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