Developers Alliance
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Comments on "Interim Report on Competition Evaluation of Mobile Ecosystem" and "Interim Report on Competition Evaluation of Voice Assistants and Wearables"

Introduction

The Developers Alliance welcomes the opportunity to share our views with the Digital Market Competition Headquarters (DMCH) on the Interim Reports on Evaluation of Competition in the New Customer Contacts (Voice Assistants and Wearables) and Evaluation of Competition in the Mobile Ecosystem of April, 2022. We hope that our knowledge, experience and technical understanding of the mobile app ecosystem will be useful background in the DMCH's current work.

The Developers Alliance (the "Alliance"), founded in 2012, is a non-profit industry association incorporated in the U.S. and EU that advocates for software developers as entrepreneurs, innovators, and creators. The Alliance supports developers and the app ecosystem by (i) promoting innovation and growth through collaboration, networking and education; (ii) delivering resources and support that enable developers to advance in their areas of expertise; and (iii) advocating for policies that promote developers' interests, including in the areas of data privacy and security, intellectual property, competition, and innovation. Over the past decade, we've made numerous submissions on behalf of our international software developer members, provided briefs and interventions to the U.S. Supreme Court and European General Court, testified before the United States Congress and European institutions, and met one-on-one with elected officials and policymakers in the U.S., EU, UK and globally. We have provided submissions to multiple proceedings before the ACCC in Australia, the CMA in the UK, the European Commission, multiple U.S. agencies, and have participated alongside academics and

other experts in events around the world. Our work is informed by our interactions with our 70,000 global developer members.

Overview

Developers are practical problem solvers. They seldom look to influence externalities, but rather to adapt to them in creative and sometimes unexpected ways. Nothing delights a developer more than an elegant solution that completely sidesteps an intractable problem. Developers tend to be evidence based, merit driven, and appreciate candor and competence.

The emergence of digital ecosystems coincides with the explosive growth of third party development as an industry. Without ecosystems, there would be far fewer developers, far less innovation, and far bigger companies dominating the internet. Developers are a democratizing digital workforce. Our biggest regulatory fear is an environment that inadvertently incentivizes ecosystems to adopt closed systems to escape ill considered reforms.

Given their general approach, developers tend to react to policy rather than driving it. That doesn't mean, however, that they don't hold strong opinions. Our objective in the pages that follow is to reflect developer opinions on the many regulatory and policy proposals we are following internationally, in keeping with the Interim Report's approach - which we highly endorse. Too many other jurisdictional are starting from whole cloth when approaching the same set of issues. We start with general positions, and then turn to specific principles and approaches before providing our thoughts on the common themes we find in better regulatory proposals.

A Critical Look at Presumptions

In our discussions with regulators and academics, we have identified a number of presumptions that shape how various stakeholders view digital ecosystems, and the mobile ecosystem in specific. We have tested these against how the developer community participates and understands the ecosystems they compete in, and we find many of these presumptions worth questioning.

Competition is Not Measured by the Number of Competitors

Competition law protects markets, not competitors. In small markets without the size to support more than one competitor, for instance, entry of a second can result in the failure of

both. In digital ecosystems where network effects and tipping are observed, the efficient number of competitors can also be just one or two, even though the apparent market size is quite large. Competitive multi-sided markets are better measured by the consumer welfare standard, innovation levels, and the dynamism of the ecosystem as a whole. For app developers, more than one or two ecosystems can actually drive up cost and complexity and drive down profitability.

Antitrust Law is a Useful and Powerful Tool

Anticompetitive behaviors in digital markets often have direct analogies in non-digital markets (where competition law principles are well understood). Anticompetitive behavior is measured by its effects on the market and market participants, and some behaviors that might appear anticompetitive on the surface can have large pro competitive effects. While industry experience in digital markets is still evolving, we believe that current laws are largely sufficient to identify and correct abuses. Developers have demonstrated a willingness to go to court where they believe they have been mistreated, and courts have been able to supply relief under current law.

Ex Ante Regulation is Probably Not a Good Choice

Identical behavior in two different markets can have very different competitive effects. In digital ecosystems in particular, behaviors whose purpose is to manage the ecosystem to the benefit of all participants may burden some competitors unevenly; the few are impacted to benefit the many. Competition is better served where ecosystems and regulation are capable of adapting and evolving in response to external forces. Developers are universal in their conviction that regulation will never be able to anticipate change and innovation and react as fast as markets can, or to address the level of nuance and technical expertise involved in digital ecosystems. Rules that assess issues on a case by case basis are ideally suited to rapidly changing systems such as those being studied.

Consumer Welfare is Still the Right Indicator

There is no debate, in Japan or any other jurisdiction, that the emergence of digital ecosystems has led to tremendous benefits for consumers and market participants. As the Interim Reports note, these benefits have made mobile devices virtually ubiquitous, at a wide range of prices and with a vast array of apps and features, and new ones are emerging every day. By

simple observation, the mobile ecosystem is exactly what competition law contemplates when it measures consumer welfare: prices are low, choice is broad, and benefits are clear and universally appreciated. It is unclear how consumer would be better off under a more regulated model. Developers measure the success of their products by consumer uptake and profitability in an extremely competitive consumer market, not by counting how many competitors they have.

Potential For Harm is Not De Facto Harm

Many competitive behaviors can have both pro competitive and anticompetitive effects. Many of the characteristics labeled as inherently anticompetitive in digital markets are acknowledged as pro competitive in other contexts. This may be because the ease and speed of change in digital ecosystems raises fears that platforms will make anticompetitive changes with less thought. We support proposals with clear consequences for unjustified anticompetitive acts, but broad flexibility for experimentation. Developers are comfortable in their ability to directly influence ecosystem owner behavior through the market, where necessary, and prefer less up-front regulation generally.

Big and Profitable is Not Prima Facie Anticompetitive

Digital ecosystems are unique in their ability to scale, and providing a small benefit or small efficiency for a billion consumers can lead to generous returns. At the same time, barriers against disruption are small and innovators can target any of the many markets that together make an ecosystem useful. Digital market lifecycles are not characterized by commoditization, but more by disruptive obsolescence. Developers universally admire their peers that have managed to scale their businesses rapidly to capitalize on a short term opportunity, and strive to do the same.

Self Preference is Not De Facto Anticompetitive

Self preferencing is a specific example of a behavior which can increase market efficiency and consumer welfare, but has been mislabeled as de facto anti-competitive in some jurisdictions. There is no need for conjecture, as this behavior has been analyzed in many non-digital contexts already. Developers value the stewardship role that ecosystem owners provide, and acknowledge that in many cases this is enabled through preferencing. We believe that actions which improve ecosystem health generally increase consumer welfare and are at least partially pro competitive. We encourage proposals that assess self preferencing in context based on the facts in play.

Ecosystem Stewards Do Not Need to Meet a Higher Standard

The role of ecosystem steward does not require perfect neutrality, bans on ecosystem participation, or fiduciary standards. In fact, many stewardship roles are best performed as a participant, and efficiencies and naturally beneficial consumer outcomes can arise where stewards are active in the ecosystem and feel the impacts of their own policies. Developers hold all participants to standards of fairness and transparency, but expect them to compete for advantage at the same time. While platform owners may bear a heightened burden of transparency, developers see no reason to limit their ability to participate on an equal basis in the markets they support.

Developer Views on Proposals Meant to Benefit Consumers

In the comments that follow, we have attempted to organize the many global proposals we have encountered. Not all of these are relevant to the Interim Reports, but all are reflected in one or more of the regional proposals that the Reports reference.

Ecosystem Choice and Switching

Many jurisdictions have proposed steps to facilitate a consumer's ability to switch ecosystems, or to reduce perceived barriers to switching. The rationale is that "consumer lock-in" is either an anticompetitive practice, or that by removing barriers there will be increased market pressure on existing platforms to compete for customers and for new platforms to enter.

Our internal research indicates that about 90% of developers create products for more than one platform. In fact, many in our community create versions of the same app or service for each ecosystem, with variations reflecting specific platform features and the unique audiences the major platforms attract. Our consumer research tells us that consumers see the major ecosystems as differentiated, and that they consciously choose based on their own preferences. While we understand the academic argument, consumer product companies universally focus on "stickiness" in developing their products and markets, often making interfaces unique or adding features that support their own ancillary products and services.

We see nothing anticompetitive in how digital markets have embraced these traditional marketing techniques. Consumers embrace new apps and platforms regularly, and we are unaware of any specific difficulty associated with digital markets. Generally, lock-in is problematic

where consumers are dissatisfied with a service but high barriers prevent them from moving to something demonstrably better. Research into mobile ecosystems simply doesn't reflect this level of dissatisfaction. We believe policies that try to change consumer behavior where there is no inherent demand for change are unlikely to be successful, and may be harmful.

Restrictions on Advertising

Traditional media and entertainment products have always used advertising as a monetization mechanism. While consumers might prefer ad-free content that is also cost free, they have long demonstrated their willingness to trade some of their attention to marketers in exchange for free products and services. This is as true today (on TV, radio, and in print) as it has ever been, even though consumers dislike ads generally.

There is a natural incentive for advertisers to create ads that are interesting and compelling. Ads cost money to produce and deliver, and their purpose is to attract consumers and encourage purchase. Personalized ads are proven to be more effective in this regard, and ad targeting reduces the inefficient presentation of ads to non-interested consumers. Personalized ads are cheaper and more effective for advertisers, and when properly executed more valuable and less bothersome to consumers.

Developers often rely on personalized ads for monetization of early stage products. In fact, until an app has demonstrated consumer adoption it can be difficult to monetize or fund in any other way. While alternatives such as contextual or mass-market advertising are viable alternatives, they are less profitable for advertisers and developers, and more irritating to consumers. Advertising is thus a key enabler of innovation and small developer business capitalization. We support proposals which encourage transparency in advertising and ad attribution, but encourage policies which also allow for ad-supported apps and services.

Restrictions on Data Acquisition

Policies that restrict advertising are often justified as protective of consumer privacy. We are strong proponents of developer data practices that promote consumer trust, and fully support transparency in data acquisition and use. Consumers should feel informed about what is happening with data. We also believe that market forces, supported by transparency and informed choice, are the best mechanisms to promote consumer-friendly practices in this area.

Developers recognize the need to balance consumer protections with consumer benefits, and acknowledge that there are still incentives for bad actors to abuse consumer trust. Developers understand that many valuable services rely on data, and that the responsible acquisition and use of data has many benefits. We are encouraged by market initiatives such as privacy "nutrition labels" which promote transparency and empower consumers to push markets towards better practices without restricting data acquisition and uses which have consumer support.

Developer Views on Proposals Meant to Benefit Developers

There is a mistaken belief in some jurisdictions that developers want and need competitive protection. Our dealings with developers simply don't support this, though we know there are very vocal cohorts that are actively promoting this narrative. Developers who have already established themselves, or those that have a business model that relies on weak ecosystem controls, are aggressively promoting their cause by implying they speak for all developers. This simply isn't the case.

Developers are sophisticated actors, and they understand how a successful ecosystem benefits all participants. In particular, they appreciate how platform controls facilitate small developer innovation and market entry. We have surveyed several broad developer samples and while they see room for ecosystem improvement, they are not eager for regulatory intervention.

Fees

Ecosystem support and management is resource intensive, and has historically failed where commercial incentives were lacking. Our research consistently finds that the developer community supports fees and charges for ecosystem support, though there are different opinions on how best to allocate these costs. In absolute terms, we note that app store fees compare favorably to retail store and supermarket markups in traditional goods. Thus, it is not obvious that fees are uncompetitive or unreasonable given the tools, training, and resources they support.

Recent experience in the U.S. has demonstrated that courts and community pressure can strongly influence how fees and other charges are applied. Competition litigation sparked by the developer community has resulted in voluntary fee reductions for smaller developers, though large commercial developers with higher profitability have had mixed success. In either case,

existing laws have proven capable of promoting pro competitive outcomes through the traditional court system.

Developers support proposals which encourage fee transparency but leave room for fee structures which support overall ecosystem health. Without the ability to fund the app store services that are so important to small and medium sized developers, our community fears these critical services may disappear. The result would be far more harmful to startups and scale-ups than to large, profitable, and established developers - which perhaps explains the split in opinions in this area.

Additional App Stores

Many jurisdictions are championing additional app stores as a means for promoting increased competition, albeit without demonstrating failures in the current system. Developers have mixed opinions on the costs and benefits of these proposals.

Developers are pragmatic business people, and treat the decision to place their apps in any particular app store as a cost-benefit calculation. Creating, adapting, and supporting software in an app store requires resources, and each additional store drives incremental costs. Where the additional costs are justified by additional market access and revenue, the decision is easy. But where costs outweigh benefits, there is no incentive to support additional channels. In general, our research indicates that most developer businesses would support one to three app stores, recognizing that multiple app stores targeting the same ecosystem drives up costs but adds few new consumers for them to target. Further, developers recognize that app store differentiation is pro competitive and segments the consumer market in ways that developers find beneficial.

Developers as a whole do not support proposals that would commodify app store business models or force them to market through channels that don't increase profits. Developers also recognize the key role that app stores play in managing the various ecosystems, and that the policies and procedures in place are critical to overall ecosystem health. Proposals which encourage transparent app store policies and which discourage unjustified anticompetitive behaviors are generally welcome, though we encourage broad stakeholder engagement to gain a balanced view of the costs and benefits involved. We are particularly supportive of industry codes of conduct with wide stakeholder participation.

Alternative Payment Systems

Some jurisdictions are under the mistaken impression that payment systems and fees are related. They are not. Developers generally value the benefits of having the negotiation, selection and management of payment services aggregated across the entire app store by the ecosystem owner. Smaller developers recognize the benefits of having someone else manage tax and compliance issues on their behalf. Developers value having app stores manage the fraud and consumer-facing refund systems. That said, there are those who would value the flexibility of using either an on-platform or an off-platform payment system.

Developers support the idea of opening the payment system so that they can choose either the default app store service or manage their own, although it is unclear how many would actually select an option other than the app store offer. Developers do not support proposals that would remove the app store service as an option, or that would remove the direct linkage between payment system fees and transaction costs.

App Store Approval

App Store approval policies are arguably the most direct method for ensuring app quality in the ecosystem. Developers recognize the necessity and the ecosystem owners difficult role in this area. Where policies are ambiguous, arbitrary, or change erratically, or where app stores are not responsive to developer questions and feedback, this process can be a significant burden.

We are aware of two extreme approaches to the app approval process: some jurisdictions seek to co-opt it as a tool for public policy regulation, while others seek to eliminate the role completely in the name of ecosystem neutrality. Neither model addresses the critical role the process plays in ecosystem viability.

Developers support policies which encourage transparent, reasoned and stable app approval policies that are applied fairly and evenly, and which include a robust appeal process. They welcome stakeholder input, but are generally suspicious of government intervention and the risk of politicization. The approval process is a powerful tool that needs to be responsive to ecosystem participants, not to policy maker whims.

App Store Ranking

The ability for consumers to search for and discover new apps and games is of critical value to smaller developers without established brands. Curation, promotion, and recommendation

systems are key to being discovered in a densely populated app marketplace. Developers invest significant resources into ranking and promotion for their apps.

Proposals that encourage reasonable transparency in ranking algorithms and generally provide a level playing field for apps to compete are welcome. This does not mean developers support the removal of ecosystem-owner apps from the process, but they believe that these apps should be ranked in the same way, or alternatively should be listed separately, to promote transparency. We acknowledge that full transparency may not be possible where it allows gaming of the system to the detriment of the ecosystem overall.

Mandatory Data Sharing

Several jurisdictions focus on consumer and app data as a key area of potential anticompetitive leverage. We are generally skeptical of models which treat data as scarce, valuable in its raw form, or susceptible to property rights. We believe data only becomes valuable when analyzed, organized and refined with a specific purpose in mind. We believe that rights in data are usually shared between several parties, though not necessarily equally.

Developers generally view consumer data in three ways: as an enabler for their app or service, as a resource for app development or improvement, and as an opportunity for monetization. While the first two applications require data to be within the developer's reach, the third can be abstracted to a third party. In most cases the consumer is also a party to the rights involved.

Developers welcome proposals that encourage appropriate commercial access to useful data, or alternatively to tools and outputs that leverage data held by others. They also recognize that this may not be possible without consumer consent and participation. To the extent that ecosystem owners abuse their shared rights in data for anticompetitive purposes that aren't justified by their role as ecosystem stewards, transparency requirements and existing competition regulation provide appropriate remedies.

Ecosystem Owner as Developer

In most digital ecosystems, the ecosystem owner is also a participant in one or more of the inter-related markets the system supports. Several jurisdictions have proposed rules that apply to this unique role.

Restrictions on Hardware / OS privileges

Where the ecosystem is anchored by hardware or an operating system, the ecosystem owner by definition has unique knowledge and control of a critical ecosystem component. Typically this has two dimensions: the ability to use hardware or the operating system as a control point for ecosystem benefit (often privacy and security control), and the ability to self-preference their own up-stream and down-stream products and services.

The ability to control the ecosystem to the benefit of participants and consumers is fundamental to ecosystem success, and developers do not support proposals which inappropriately constrain this ability. Developers support proposals which encourage transparency and fair access to hardware and OS with the caveat that restrictions may still be necessary, but should be limited and defensible, as protections for ecosystem health. Where ecosystem owners retain critical controls with commercial value, they should provide mechanisms for reasonable commercial access by appropriate stakeholders. In all cases, anticompetitive behavior must be tested and justified under existing competition law on a case by case basis.

Restrictions on Defaults and Deletions

Our research shows that consumers want a purchased device to arrive with basic apps and services installed, and that they are both willing and able to customize their devices over time. Several jurisdictions have focused on the selection and persistence of core apps and OS capabilities as anticompetitive. These proposals introduce both ecosystem risk and competitive distortion to the developer marketplace. We oppose proposals that would mandate the ability for consumers to "roll-back" operating system and application updates. These present serious security and stability issues that cannot be resolved or justified. We also oppose proposals that would allow consumers to remove basic apps and services. Developers rely on certain base functionality when building their services. Knowing what services are available on the device allows them to focus on original software while relying on features already coded by others. This drives tremendous efficiencies for ecosystem participants and is a foundational software development practice. While they may ultimately chose to go off-device or be selective in whose APIs they use, there is universal support for a reliable on-device baseline to work from.

In an attempt to increase competition out-of-box, some jurisdictions are proposing choice screens for default apps when devices are first used. We oppose these proposals for two reasons:

first, we believe that consumers would actually be put-off by having to take these extra steps before using their device, and second, because most developers would be disadvantaged by the process. Consumers value app stores because they assist them in the app selection process. An isolated subset of choices without all the ranking and recommendation tools would leave them ill equipped to choose. Developers rely on app stores for discovery, and reject a model where they must compete for the "short list" knowing the longer list may never be accessed by consumers that are frustrated by having to choose twice. Absent a theoretical process that is neutral (which we've yet to see), the current model where ecosystem owner's decide on a single choice is the least market distorting option, and something developers and consumers are familiar with and with which they've found success.

Mandated Interoperability

Any proposal which artificially removes differentiation from the market can reduce beneficial competition. However, our primary concern with imposed interoperability is its potential impact on end-to-end encryption, which we strongly support as a foundational privacy and cyber security tool, and overall innovation. While mandates may benefit some ecosystem competitors, their impact on encryption and overall innovation is too high a cost to pay. Mandating interoperability also impairs the market for innovative disruption and the consumer benefits it drives.

Restrictions on Internal Data Sharing

Ecosystem owners, developers, advertisers and other stakeholders at times share unequal access to ecosystem data. In their role as intermediary, platforms sometimes have a more comprehensive view of ecosystem data flows. These insights can provide a competitive advantage for an ecosystem's related services, some of which may compete with third parties that participate in the platform ecosystem. These advantages can, in theory, provide both consumer benefits and competitor harms.

Given the mixed impact, data sharing proposals must account for context and be fact driven. Prohibiting internal data sharing can foreclose consumer benefits, and we would counsel against ex ante bans. Where practices are patently anticompetitive they should be disallowed.

Developer Views on Proposals Meant to Benefit Other Ecosystem Stakeholders

Advertisers, device manufacturers, and other platforms are just a few of the additional stakeholders in digital ecosystems. We are aware of a few jurisdictions proposing regulations in support of these other groups.

Transparency and Fair-Dealing

We see a general trend towards rules that encourage transparency between ecosystem participants, including consumers. We are strongly in favor of reasonable transparency, but note that in several situations, larger trade-offs will limit what can be disclosed (e.g. for privacy, or security, or to prevent bad actors from gaming the system). On the other hand, there is little room for unknown vs. opaque activity, so while details may be hidden, the fact a practice or behavior is taking place should not.

Visibility of overall ecosystem functions is therefore part of "fair dealing". When all parties know the rules (even if they don't like them) there is a chance to challenge or influence how the ecosystem develops. Perfect platform neutrality is neither reasonable or desired, as it eliminates the platform owners ability to manage the ecosystem overall.

Ecosystem Owners and Vertical Integration vs. Disaggregation

Academic distinctions between traditional vertical integration and integration within ecosystems are still being debated. Often these practices create efficiencies that benefit consumers. Given that these practices can be both pro competitive and anticompetitive, we would encourage proposals that assess behaviors on a case by case basis. An ex ante ban on integrated services within ecosystems, like data sharing, can reduce opportunities for efficiencies with direct consumer benefit.

From a developer perspective, there can be significant benefits in integrated services provided by ecosystem owners. Without centralized services, each developer would need to contract and integrate their own suite of features or third parties would need to add an ecosystem layer to offer this ability. Again, policies which identify possible anticompetitive behavior in this area on a case by case basis are strongly preferred. Competition law is well suited to police these activities.

Developer Views on Proposals Meant to Benefit Competing Ecosystems

The market entry of additional ecosystem competitors is a special case which seems to have drawn considerable attention. For example, in the mobile ecosystem several jurisdictions believe that a third or fourth major platform is required for true competition, and that the lack of such a player is de facto evidence of a lack of competition. We don't believe this is obviously the case.

As outlined above, adding another competitor to a mature market does not guarantee consumer benefit, and potentially causes consumer harm. Scale, network effects and tipping are potentially powerful forces which ultimately narrow the number of competitors that can efficiently compete in a digital market category. More often, disruptive entry is the force that keeps ecosystems dynamic and competitive, where a new ecosystem captures some of the value from an old one as new technical capabilities emerge or consumer behavior shifts.

Rather than focus on intervening in markets where no harm is proven, we encourage proposals which support innovation and experimentation in new and adjacent markets. Premature regulation of the emerging ecosystems around AI, AR/VR, and autonomous systems is far more likely to reduce competition in existing ecosystems than to promote it.

Developer Views on Beneficial and Harmful Regulatory Practices

Beyond specific digital ecosystem issues, we are seeing an increase in the range and scope of questionable regulatory approaches to internet-based businesses. We counsel caution when assessing the costs and benefits of any of the following approaches.

Extra-territorial Scope

The internet is global, and digital ecosystems extend across international boundaries. While regulations that control national activity are appropriate, care must be taken when crafting rules designed to have an extra-territorial effect. Extra-territorial laws create three potential challenges for developers targeting global markets: first, they may create additional costs and reduce incentives for foreign developers to target opportunities to the national market, reducing consumer choice; second, they may encourage local developers to leave the market because the local burden harms their ability to export and reduces investment; and third, they may invite retaliation from other jurisdictions leading to balkanization and digital isolation. Developers are a highly mobile and valuable resource, and software jobs are hugely beneficial as economic drivers.

Proposals which seek to use digital regulation as an international policy tool are likely to have significant collateral impacts at home.

Conflict of Laws and Regulatory Harmony

Specifically because of the internet's international nature, there is a real danger of local rules conflicting with those of a foreign jurisdiction. In the extreme case, developers may find that a specific behavior is both mandated in one jurisdiction, and prohibited in another. For example, proposed regulations which mandate government interference in free speech are about to collide with constitutional rules elsewhere which prohibit the same. Coupled with extra-territorial reach, developers may soon find themselves restricting their activities to avoid contact with one of these markets. In less extreme cases, developers may find it more costly to meet regulatory intent in multiple markets at once versus one at a time. In these cases, products and services may quickly diverge internationally such that local consumers will see reduced choice and innovation. Neither is preferred, and we encourage dialog and cooperation amongst the many regulatory bodies looking at the industry.

Evidentiary Basis

We strongly support fact and context based, case by case evaluation of competitive behavior. Many of the international proposals we have seen acknowledge that ecosystem behaviors can have both pro and anticompetitive impacts and justifications. To weight the former more than the latter can lead to economic inefficiencies and reduced consumer welfare.

Stakeholder Inclusion

We are also strongly in favor of significant stakeholder input into the shaping and adoption of regulatory proposals. We are particularly supportive of voluntary, industry-led codes of conduct as the basis for ecosystem evolution. We're also in favor of harnessing natural market incentives (e.g. privacy nutrition labels) to drive desired behaviors. If consumers value privacy, and if they can make privacy-related choices freely, then the market will react to satisfy consumer demand. Market prohibitions and punishments tend to underweight externalities (such as the drain of resources from the market, restrictions on innovation, and unanticipated outcomes).

Politicization

Many jurisdictions have gone to great lengths to target individual ecosystem companies in the guise of universal rules and regulations. The results are transparently political, and hard to endorse. Most market participants see them as the arbitrary picking of winners and losers, and even those who benefit see that, on a whim, their turn could come next. Further, without evidence of actual consumer harms, investors and innovators can no longer predict how future success will be treated, so incentives to "compete to win" and attract political attention are stifled. We encourage principle-based proposals that apply across the industry, perhaps proportionally, or direct litigation for companies that are breaking the rules.

Ex Ante Regulation

As mentioned above, ex ante regulation is incompatible with innovation. As long as there is one jurisdiction with evidence-based rules, ex ante regulation also harms national competitiveness. If regulators were unable to predict the current digital economy and establish the appropriate rules before it emerged, there is little likelihood today's proposed rules will be appropriate for what is to come. We only support ex ante rules where the prohibited outcomes are highly likely, unacceptably harmful, and unjustifiable.

Conclusion

Software developers are key stakeholders in all digital ecosystems. They have a vested interest in both ecosystem health and competitiveness. While today's system's aren't perfect, the fact that they continue to attract and reward innovative developers, and delight consumers, is a strong counter-factual to the narrative that they are uncompetitive.

We thank the DMCH for the opportunity to share our views and insights on the Interim Reports and the proposals they contain, and would welcome the chance to participate further if we can provide any assistance.

Respectfully,

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