One Step Forward: Encouraging Competition in the Vintage Computing Marketplace

by Brock Harrison · Published May 29, 2019 · Updated May 29, 2019

Introduction

Given the rapid pace of technology innovation, the chasm between contemporary computing environments and classic computing systems increases every day. In spite of such progress, yesterday's systems attract and retain a loyal following, enthusiasts who continue to utilize these purportedly obsolete devices. Many enjoy the units as entertainment, playing games either no longer available or best enjoyed on a particular platform. Some wrangle maximum utility from by appreciating and working within the platform's constraints. Others seek the challenge of advancing the platform to deliver results not thought possible or to integrate the existing system with contemporary technology solutions.

This last group may create software or hardware that stretches platform capability boundaries. Following creation, the former groups may then request the purchase of this new development effort, creating a marketplace. In a thriving community, these solutions trigger additional development, furthering both the marketplace and also the community.

Such a marketplace must contend with logical and financial constraints, since the community comprises a finite size of potential customers who dictate the maximum possible investment potential. Given these constraints, enthusiasts may wish to artificially limit the size of the marketplace, so as to maximize return on investment for existing producers. While laudable, placing limits on market participation serves neither the best interests of the producer nor the consumer, regardless of community size.

Marketplace and Investment Considerations

Quite simply, a marketplace surfaces when needs or desires are met with products or solutions. Given a vintage computing community's size, it is rare that a party external to the community enters to fill such a need. In fact, many communities actively discourage such external forces through an unwillingness to patronize these entities. Thus, very often, marketplace producers surface from within the community, playing both consumer and producer roles. This carries implications for the consumer and the marketplace.

In all communities, members make large and small investments in their hobby, in keeping with their plans for enjoyment. Some investments result in new capabilities, capabilities that other consumers may desire or need. This may, in turn, encourage a consumer to further the capability into a product and place it into the community marketplace.

Let's consider the drivers for market introduction. The would-be producer must decide if the product truly benefits the community in some non-trivial way, can be offered at a reasonable price, and can be reliably sold and supported by the producer. While the producer must consider profit, the aforementioned community size and investment potential constrains overall sales opportunities. A potential producer wishing to maximize profit would simply choose a different market. Thus, producers prioritize other product introduction drivers. Technical appreciation may prove a factor, while some simply enjoy the euphoria in

product adoption within the community. Savvy producers leverage market opportunities to rationalize equipment or software investments. Above all, the respect and admiration consumers afford community producers fuels market entrance.

From the consumer's point of view, sales will compensate the producer for the investment made in bringing a product from idea to market. However, substantial non-recurring investment was made during the enjoyment of the hobby. Purchases such as contemporary computing systems, development tools, programming education materials, time necessary for education, prototype construction tools, soldering stations, electronic parts, 3-D printers, milling machines, etc. should all be considered a "sunk cost". In reality, the producer would have made that investment as a consumer enjoying the hobby regardless of marketplace considerations. Often, consumers will point to such costs when discussing marketplace size or product proliferation. While profit from sales can and will be utilized to fund additional investments in the hobby (in essence, paying off investment for a potential future product introduction), the consumer can safely disregard such costs as he or she considers the viability of encouraging additional marketplace entrants.

For new marketplace entrants, consumers may prudently consider costs associated with converting a project into a product (specialized tools, additional time investment, hardware production costs, etc.) as part of the overall product investment. These entrants are taking on considerable risk with no guarantee of success. However, once a producer successfully enters the market, consumers need not consider such costs so strenuously. Sales from previous products effectively minimize producer risk, and such recurring costs diminish as the product portfolio increases. If costs are so considered, community members thus need not discourage new marketplace entrants, for existing producers hold lowered risk positions.

Exceptions to this cost breakdown do include investments like injection molding non-recurring engineering (NRE) costs or significant minimum quantity hardware purchases, but those are relatively infrequent. In these cases, the community should temporarily support one or a few specific producers in a narrowly defined use case in order to minimize producer risk and maximize community value.

Innovation Considerations

Technically, introducing any new capability defines innovation. However, not all new capabilities are valued in the community. Thus, true innovation must combine both the introduction of a new capability or refinement of an existing capability with the community's willingness to support said capability. Given that definition, creating new capabilities that enjoy reasonable community support may prove difficult.

Innovation thus often comprises extending existing capabilities to include more contemporary technology. In the TANDY Color Computer (CoCo) community, products like Glenside's IDE Adapter extended rotating disk storage capabilities to include Advanced Technology Attachment (ATA) drives. Darren Atkinson's CoCoSDC solution extends storage capabilities to support Secure Digital (SD) devices. Brendon Donahe's CoCoVGA extends video output to support Video Graphics Array (VGA) devices. Finally, Cloud9's PS/2 Keyboard interface extends input capabilities to support IBM PS/2-style keyboards. Community members rarely dispute innovation in this area.

Innovation also lies in recreating products no longer offered for sale with internal improvements as well. Cloud9's SuperIDE device emulated the Glenside IDE controller functionality, while adding CompactFlash and real time clock capabilities. Ed Snider's MiniMPI and MegaMiniMPI recreate the TANDY MultiPak Interface (MPI) functionality, while enhancing the space requirements and (in the MegaMiniMPI solution) adding

additional serial and audio capabilities. Neil Blanchard's dual SEGA joystick adapter recreates functionality found in a hobbyist magazine from 1984, extending to support additional SEGA joypad capabilities. While purists may balk at considering such products truly innovative, few others will challenge the value these solutions provide.

Innovation may lie below the surface, not visible or fully understood. To cite a specific case, both Cloud9's Protector+ solution and BoysonTech's Guardian product function as a "CPU Saver", protecting the computing system's central processing unit (CPU) by buffering key I/O signal lines from cartridge port mishaps and general electrical interference issues. The Protector+ entered the market many years earlier, while the Guardian was introduced in 2018. Both products appear to function identically, and some feel the latter provides no additional capability. However, the BoysonTech design improves upon the original concerning buffered databus signals (for use in a CoCo 1 or 2) and the CPU read/write line (for future DMA use). Such improvements might remain partially academic given current use cases but prove more useful with future capability enhancements.

Innovation "clustering" may also pose challenges. Over the past few years, the CoCo community has experienced a proliferation of audio improvement solutions. John Linnville introduced his Game Master Cartridge, while Ed Snider brought out first the CoCoPSG standalone peripheral device and then an integrated audio capability in the MegaMiniMPI. Community members may criticize the preponderance of solutions in a space, worrying that the plethora of devices will encourage chaos and adversely affect market adoption. In the short term, consumers may indeed experience frustration with the multiple product options and lament over the lack of innovation diversity. The community must recognize such clustering directly relates to multiple consumers concurrently enjoying the hobby in a specific capability segment, pursuing effort to improve capability in this space, and then promoting a resulting project into the marketplace.

Defining the amount of change in a capability so as to be considered an innovation falls outside the scope of this article. However, it should now be evident that the definition of innovation may lack the clarity needed to utilize it as a metric by which to criticize or applaud potential product introductions. Members should instead consider other mechanisms to manage overall marketplace health.

Additional Market Considerations

Visible or hidden innovation realization aside, consumers must not ignore more traditional product qualities. Even if undifferentiated, lower priced new product offerings should not be viewed as wholly cannibalistic. Existing producers rarely adjust pricing after product introduction, but even small-run hardware production costs decline as the product sees adoption. Even in smaller vintage computing marketplaces, competition encourages existing producers to re-evaluate production costs and pricing. Consumers should also not immediately dismiss simple improvements like better target device fitment, bundled software, or improved documentation.

Communities must also well understand and manage producer involvement lifecycles. Circumstances within or external to a producer's control often force eventual departure from the marketplace. While consumers can sometimes influence such timing (in both beneficial and negative ways), they cannot completely control producer involvement. Thus, communities must guard against this reality by encouraging and supporting competition in key capability segments.

Established Producer Considerations

Within a community, consumers and producers partner to pursue collective hobby enjoyment. Implicitly, consumers feel the need to "protect" marketplace producers as part of a healthy partnership. However, such actions must be balanced with supporting community consumers wishing to pursue market entrance. Communities promote marketplace health by regularly introducing market entrants, ensuring that established producers manage competition in a healthy and productive manner. Allowing the marketplace to stagnate without new entrants creates market inflexibility and can decrease marketplace health.

Since producers most often belong to the community and communities draw from all personality types, producers thus exhibit varying personalities. Some producers appreciate their own market entrance but then may later resist newer entrants. Other producers may imply capability segment ownership, due to product portfolio options and segment stagnation . In extreme cases, producers may harass or campaign against new marketplace entrants in order to alleviate competitive pressures. While community members should practice flexibility concerning member personalities, consumers must hold producers to a higher standard. Long term marketplace and community health demands that producers practice healthy competition, regardless of personality.

In healthy communities, existing producers should welcome competition, as it puts beneficial pressure on such producers to finish long-ago started projects or further innovate existing products requiring refresh, increasing the priority of such projects in lieu of competing lifestyle demands.

In some cases, encouraging competition will trigger an established producer to exit the marketplace with prejudice. While the community will no doubt experience a short term loss, communities must focus on long term health. Allowing short term marketplace concessions discouraging competition to support radical community personalities creates severe and long lasting negative community impacts. Consumers typically exit a community regarded as hostile towards competition.

Communication Considerations

One cannot argue against the benefits of community communication. Consumers can share helpful information, producers can help consumers and learn of new desires or needs, and producers can learn from other producers on how to better support the community. Community members may expect that producers align on product strategies or market segmentation, as a way to maintain a healthy marketplace. However, this communication expectation often poses challenges.

First, we must understand that consumers (and thus producers, whom we previously noted typically comprise consumers in the same community) communicate ideas at varying timelines. Some prefer expressing an idea immediately, before any development effort has begun. Others toil in secret until major portions of an idea are proven, announcing then the working idea for further discussion. In extreme cases, producers toil in silence until product introduction, worried that any announcement prior to product finalization constitutes a potentially breached contractual obligation and disappointed community peers. Except in the first scenario, a potential producer will withhold knowledge of a potential capability improvement from all parties, consumer or producer, as a hedge against over-promising and under-delivering functionality.

Coupled with the above, the following factors may also influence producer communication:

- Fear that an established producer will more quickly design and market a similar or the same product
- Concern that discussion may spark later accusations of idea theft if both producers bring out similar but differentiated product offerings
- Frustration when attempting to approach existing producers lacking communication skills. Communities include strong personalities, some who produce products while quickly criticizing potential new entrants or designs
- The bristling suspicion that product idea conversations would or could be perceived as philosophically "requesting" market entry permission
- Burdens over adequately communicating with all applicable established producers to ensure product placement alignment in marketplaces with all existing producers
- Trepidation in exposing existing product limitations or defects with that product's designer during such a discussion as an outcome of explaining the differentiated product's innovative aspects

While the community can and should encourage competitors to communicate, members must acknowledge the above issues may limit or prevent producer to producer communication. As such, the lack of such proactive discourse should not be harshly judged. Given the significance of potential competitor communication obstacles, it seems naïve to expect competitors in a vintage computing marketplace to focus heavily on such communication.

Sometimes, communication arrives as product pre-announcements or prototype presentations. What weight should the community give to such announcements? In a utopian world, where a viable product followed a pre-announcement or prototype demonstration in a reasonable timeframe, it may prove wise to encourage other community members to innovate in alternative areas. However, the hobbyist community often sees the highest level of stalled or never-finished projects. Thus, one can make few decisions based on pre-announcements or demonstrations. Community members, in order to maximize the potential for product delivery, should actively eschew placing much weight on such pre-product information.

Concerning productive communication, established producers find themselves in a difficult position. As community members, they must protect community health, including marketplace health. However, these members must carefully communicate concerns, as others may cry anti-competitive bias given their community position. Given a healthy community, one must assume most members understand marketplace dynamics and can effectively voice concerns. Producers should thus typically allow consumers to voice competitive concerns.

In Conclusion

Given the limited size of vintage computing marketplaces, community members desire to maintain community and marketplace health, an admirable goal. Consumers and producers also form a symbiotic relationship, the latter satisfying demand from the former, which then creates additional needs or desires yet to be fulfilled. However, curtailing community competition limits hidden or chaotic innovation, forces worthless debate over innovation scope or merit, minimizes consumer financial value, and deprives existing producers from enjoying the beneficial qualities of competition, while potentially embarrassing potential new marketplace entrants. While entering the marketplace can require investment, consumers should generally ignore non-manufacturing costs as a criterion for favoring existing producers over new market entrants. Communities should continue to encourage communication in all forms, but community members should not demand potential producers communicate in a method or frequency that falls outside of their comfort zone.

Wise and community-minded producers strive first to ensure improved capabilities enter the market for the community's benefit. Ego suggests he or she arrive first to the marketplace, but encouraging multiple sources to enable a capability relieves pressure on individual community producers. Knowing that others are at least allowed to further a shared goal relieves stress and burden on the individual producer who may otherwise feel he or she alone is expected to enable a capability or innovate in a specific area.