Troy Johnson
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Video Games: Balancing New Technology Costs with Smart Development
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Larson

The video games industry is rapidly increasing in importance in our economy today, establishing itself as a powerhouse far greater even than box office sales (Chatfield, 2009). Along with this surge in economic dominance comes the inevitable development of new and updated relevant technologies, both to ensure that the games remain cutting-edge and to facilitate their distribution to the largest possible markets. No small tasks, such research and development processes require significant labor and financial investments (Loftus, 2003).

Unfortunately, the continuous creation of these new technologies seems to be outpacing many video game developers' abilities to use them cost-effectively. The public keeps pushing for better and newer, and the money it takes to effectively incorporate the "latest and greatest" in game design keeps growing. This trend is dividing the industry, leading many small and mid-sized studios to close their doors. On the surface, it appears that only the largest developers can afford to make an impact on the video games community (Mattas, 2010).

However, over the past few years, many studios, publishers, and developers have effectively learned to incorporate *necessary* technologies without falling into common economic trappings that often accompany high-tech implementations. Further, modern business models made possible by relatively new developments in the industry have allowed companies to give potential consumers access to their products through a much looser barrier of entry (Jones, 2010). Not only do these

models allow for wider distribution, but they also allow the dissemination of products at a much lower initial investment.

By evaluating hard data as well as opinions and observations from industry executives and analysts, this paper will outline the current climate of the video game development industry and explain where economic dangers lie for publishers and developers alike. However, it will also show that, despite these difficulties, game designers have access to education, resources, and forward-thinking business models that can dramatically cut development costs over time and substantially increase revenue.

Fun Does Not Come Cheap

To most people with common sense and a basic understanding of economic inflation, it is likely unsurprising that nine of the ten most expensive video games to ever be produced were released during the last five years ("Top 10 most expensive video games budgets ever - DigitalBattle.com," 2010). What may be alarming, however, is that, according to a recent study by M2 Research, the average development budget has ballooned over the past decade from under $1 million to $18-$28 million (Crossley, 2010). Recent games such as *God of War III*, *Call of Duty: Modern Warfare 2*, and *Grand Theft Auto 4* have cruised well beyond that mark, reaching up to and even beyond $100 million with marketing expenses considered (Morris, 2010; Farr, 2011; "Top 10 most expensive video games budgets ever - DigitalBattle.com," 2010).

Industry analysts and professionals give many reasons for the steep budget increases. The foremost of these is simply put by NPD Group analyst Richard Ow: "Research and development costs continue to go up," (Loftus, 2003). The complexity of games, from the art to the programming to the marketing, has grown exponentially along with the rapidly improving technologies of our modern entertainment world. With every passing generation of video game technology, games require as much as "40 times as many lines of code to fully exploit [the] capabilities. And that costs money" (Loftus, 2003). Specifically, impressive graphics are among the worst culprits. "[The] quickly increasing demand for high quality visuals has pushed development costs up and up, forcing development and publishing to require higher sales figures just to break even" (Farr, 2011). As Nintendo Co. Ltd. president Satoru Iwata noted in a question-and-answer session concerning the Nintendo 3DS in June 2010, "if you are going to take full advantage of the graphics capability of Nintendo 3DS, the development cost is also expected to rise" (Oxford, 2010). Other improvements and innovations responsible for rising costs include surround sound, massive storage formats (including Blu-ray), and motion control implementations.

Beyond just expensive technology, the process of creating games now requires more minds and hands than ever before. Gone are the days of mainstream titles created by one artist and one programmer. In 2003, Dave Perry, president of video game studio Shiny, commented, "To keep pushing the limits, that not only takes more people, but better people… Great development staff are therefore becoming more and more valuable, and…they will be at a new premium" (Loftus,

2003). Concurring, though disappointedly so, 30-year industry veteran Mark Cerny points out, “We had no specialization whatsoever in 1994… In 2011, we have the creative director, the game director, the director of actors, stunt coordinator, the guy who makes the plywood props, the audio scripter, the lighting designer, and the most recent of creations--the combat designer” (Reisinger, 2011). With each additional employee comes additional costs, and it does not appear that development teams will shrink anytime soon.

Other sources cite less concrete reasons for the growing problem. For example, the current global economy has received blame for turmoil within the video game industry, compounding the financial woes of many developers. Because of “industry-wide whirlwinds of downsizing, restructuring, and layoffs many studios are spending more on development than ever before” (Mattas, 2010). Further, a report by media analysts Screen Digest suggests that long development times are an increasing cause for concern (“Game profitability ‘under threat’ | BBC News,” 2007). Finally, rather than allocating assets among multiple diverse projects to appeal to broader audiences, some developers are putting all of their financial eggs into one basket. In essence, they are taking the costly “Hollywood approach to increasing revenue: The blockbuster” (Loftus, 2003). The nature of this strategy allows no room for failure. With any of these often-unexpected expenses, budgets can quickly rise far beyond initial plans and expectations.

Chris Morris, CNBC.com contributor, boils all these issues down plainly: “The price of development on console titles has skyrocketed this generation – and a hit or

miss can make the difference between a good financial quarter and miserable one" (Morris, 2010).

The Bad and the Ugly

An occasional miserable financial quarter for a handful of studios would not be cause for industry-wide concern. Markets naturally fluctuate, and under usual circumstances diligent developers recover with time. Unfortunately, miserable financial quarters are becoming the rule more than the exception for many in the video games industry, and the sailing numbers for average budgets are taking their toll on profitability. If every new game sold like *Super Mario* or *Call of Duty* titles do, there would not be much problem with $30 million production costs. Sadly, the reality is that "the majority of games, analysts said, sell no more than 150,000 copies" (Richtel, 2009). John Schappert, chief operating officer of Electronic Arts, said at the 2010 Game Developers Conference, "It's really tough in our space now if you're not making a hit title… If you're not making a game in the top 20 [of the monthly sales], you're probably losing money" (Morris, 2010).

Dozens of games companies and thousands of employees have found this to be all too true in recent years. Developers like Australian outfit Krome have announced massive layoffs with little sign of hiring again soon, as have Warner Bros. Interactive subsidiaries Monolith, Snowblind, and Surreal. These cutbacks are a direct result of poor sales that did not end up matching investments (Crossley, 2010; Mattas, 2010). "According to M2, '...the final count for layoffs since the economic meltdown in late 2008 reached 11,488 worldwide, with the majority of the losses

coming in 2009'" (Mattas, 2010). Even more dramatic than layoffs, however, is the rampant closing of entire studios across the globe. While occasional studios like Majesco have narrowly escaped complete failure (Majesco shares fell from $12 to "just pennies" when big investments in *Psychonauts* and *Advent Rising* failed to generate sufficient returns), Pandemic, Grin, 3D Realms, and scores of others have not been so lucky (Morris, 2010; Mattas, 2010). The climate for game development has been harsh lately, and at a glance it seems that only the most capital-heavy producers have the resources necessary to weather the storm.

Company numbers are not all that is suffering, however. Smart business practices and responsible financial management have also taken a hit as a result of both overconfidence and lack of discipline. Cerny, who now runs a developer consulting firm called Cerny Games, says that a "steady influx of cash has steered the industry away from saving and toward unnecessary expenses" (Reisinger, 2011). These unnecessary expenses can be manifest in a number of ways, including simply making poor investments because of a failure to do proper research or market analysis. For example, Hello Games' Sean Murray points out that some publishers pour extra money into potential blockbusters (no guarantees!) distributed via traditional disc-based delivery without considering the benefits of investing in the less expensive downloadable games market. He argues that such shortsightedness "stems from both lack of experience and lack of effort or interest" (Jones, 2010). Further, there are those who have forgotten to keep an eye on the future because of the assumed need to create a hit game immediately. "To ensure long-term success, a video game company has to continually introduce new intellectual properties…[as

well as have] strong existing franchises…" (Morris, 2010). Some publishers are forgetting to balance these efforts, instead opting for the blockbuster approach (as previously mentioned).

Not only are the business aspects of video games taking a hit, but also the quality and innovation in the games themselves. The power behind video games as an important (and profitable) artistic medium is the diversity of experiences that developers can portray and simulate through them. Unfortunately, current financial circumstances have publishers on their guard, and fewer than ever before are willing to support new ideas. According to George Broussard, known for his work on the upcoming *Duke Nukem Forever*, "Publishers lack vision, hate risk, and play follow the competitor (Farr, 2011). Video game sequels are often improvements over their predecessors, but too many can stifle the creativity that the medium is known for. Currently, most large companies are banking on old standards instead of developing fresh properties. Disney Interactive, for example, builds "games around familiar characters to make their games easier and less costly to market" (Richtel, 2009). Besides the innovation, the *effort* put into products based on existing properties is also often reduced; it is the name that sells such games, not necessarily the quality. Therefore, developers working on projects with "powerful mainstream licenses behind them can cut corners to lower cost" (Morris, 2010). Sadly, that is exactly what publishers do; it is a widely held opinion among the video games community that licensed games are generally inferior to original games in virtually every aspect of their production.

Considering the negative impacts that rising development costs are having on the industry, it is evident that drastic changes need to take place in order to keep video games artistic, profitable, and important. There is hope, however. Some of the industry's long-time innovators have retained a vision of what games are all about, and new technologies are facilitating their passing of that vision to the up-and-coming generation of designers and producers.

A New Hope

Despite the economic challenges inherent in creating up-to-date products, some "industry figures believe that despite mounting costs, games publishers who can adapt to changes in the market will not only survive, but flourish" ("Game profitability 'under threat' | BBC News," 2007). Their ability to do so depends on their willingness to educate themselves about the resources, tools, and strategies available to them. Because studios have been developing software for the current generation of technology for years, they "should know how to reduce waste and get what they want from the hardware without breaking the bank" (Reisinger, 2011). According to Cerny, creators can and must "learn what is important to spend money on, and get out of the spiral where we spend $5 million more every year making that next title" (Reisinger, 2011).

Instead of banking on the implementation of expensive, cutting-edge technologies, many creators are looking to the roots of video game development to understand where to invest their assets. Satoru Iwata places emphasis on great ideas over astronomical budgets. He notes, "I believe it's possible…to develop those

ideas at a relatively low cost and make the resulting game a hit due essentially to the quality of the ideas" (Oxford, 2010).

Modern platforms that are based on creativity more than on HD visuals and surround sound are facilitating this kind of development. Nintendo's Wii home console, which has sold over 86 million units worldwide, actually has a technological framework "similar to the company's last generation machine," the Nintendo GameCube (“The VGChartz Network,” n.d.; Morris, 2010). Thus, rather than the current average of $18-$28 million, Wii software costs closer to $5 million to create (Morris, 2010). Beyond the savings from reduced technology costs, these platforms also promote innovative controls and game concepts that have attracted wider demographics, including nontraditional gamers such as adult women and seniors (“Game profitability ‘under threat’ | BBC News,” 2007). It is evident from the success of such software and hardware that the ideas are what really matter. Though interesting new properties are not always financially successful, they are the lifeblood of the industry.

Creativity is not the only necessity for producing quality games on smaller budgets. Knowing where and how to start an idea is also imperative. For example, Canada and many states in the U.S. now offer tax breaks to video game publishers because of their importance to local economies (Farr, 2011). Setting up shop in such an area saves money on development, so assets can then be invested toward marketing and further innovation. Geographic location aside, knowing the best technology or platform on which to develop a game is critical. Services like "Apple's App Store [offer] an extremely low barrier to entry – just $99 for a dev-kit and a

revamped review process that sees new apps approved or denied in as little as three days" (Jones, 2010). Production of a game through this avenue clearly involves much less risk than game production for a major console. Research prior to beginning development on video game software is nearly as important as the development process itself.

Finally, with an understanding of the tools that are available comes the opportunity to explore new modes of distribution and modern business models. Promoting and selling a game over the digital download service of a major home console is one of these strategies. By nature of their distribution platform, such games are typically smaller and more focused on solid fun than realistic visuals, so budgets are naturally a fraction of those of major releases. Sean Murray, whose recently released downloadable title *Joe Danger* sold 50,000 units within its first week on the PlayStation Network, asserts that "self-published games…are both more successful and more profitable than those of major studios" (Jones, 2010). Social network game development is another avenue that illustrates the success of alternative business models. Companies like Zynga have enjoyed "significant growth" through casual, social games that "have relatively small start-up costs and do not require large amounts of continued investment" (Farr, 2011). Not only do these games appeal to an unprecedentedly broad audience, but they can also generate significant returns within only six months of producing them. This is a far more attractive figure to potential investors than the typical "2-3 years of the traditional games industry" (Farr, 2011).

Clearly, publishers who are creative and willing to educate themselves about available technologies and opportunities can dramatically reduce the typical cost of game development. It certainly requires them to do their homework, but the payoffs for true innovation and smart management far outweigh the initial time investments. Such education and planning will slash required budgets by millions of dollars, and a concentrated focus on fun, innovative gameplay (even more than the most impressive visuals) will greatly increase a developer's chances of creating a commercial hit.

Conclusion

Everyone is looking for ways to cut business expenses, especially in the current state of our global economy. Inflation is significantly driving up the cost of R&D for virtually every technological advancement, and the video games industry is no exception. As each year passes, additional companies fall into a pattern of spending more and more to create their products, and finding methods to lower costs becomes increasingly daunting. However, some studios and publishers are pushing back against the trend of soaring development budgets, and they are finding both financial and critical success with the games they produce.

When it comes to the creation of any worthwhile mass media artifact, great investment is required. That investment, however, must be more than only monetary. Where financial assets are matched with education, passion, creativity, and strong management, the return will far outweigh the initial capital. Paul Jackson, head of the Entertainment and Leisure Publishers Association in the UK,

says that video game publishers are at serious risk "only if they are not ready to move up a gear" ("Game profitability 'under threat' | BBC News," 2007). Thankfully, many are now doing just that, and they are achieving the success that is possible in such a massive, dynamic market. The rest of worldwide video games industry would do well to take note and follow suit.

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