

# EXHIBIT K

(MDY's SDF)

**Supplemental Expert Report on The Impact of Glider on World of Warcraft**  
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## **I. Introduction**

This document is a supplement to my earlier report on the impact of Glider on World of Warcraft. Section II. presents specific empirical evidence which support my argument that Glider has beneficial impacts on World of Warcraft (WoW) and its parent Blizzard. Section III. provides additional arguments on why the absolute and relative success of WoW is evidence against Glider causing harm. Section IV. refutes a potential criticism of the empirical evidence from the original report which shows there is no link between Glider usage and WoW inflation.

## **II. Survey of Glider Users**

An extensive survey of Glider users was conducted to evaluate some of the theoretical claims which I raised in my initial report (Section IV, “Glider May Benefit Blizzard”). A link to a short, multiple-answer survey was sent to every valid email address associated with a purchased Glider key. A potential respondent could only complete the survey once, and respondents were largely guaranteed that their response would be anonymous.<sup>1</sup> The survey design follows the general principles laid out in the classic sampling reference, *Survey Sampling* by Leslie Kish, originally published in 1965. 6126 completed surveys were submitted.

A key question with surveys is whether the response rate is adequate and whether there are any obvious kinds of response bias. These do not appear to be problems in this survey. The response rate was 8% which is admirable given the large population

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<sup>1</sup>For each email address, a randomly generated hash was created and inserted into a survey. A link to this private survey was then emailed to each user, and once the user filled out the survey it was marked as completed and could not be filled out again.

size.<sup>2</sup> Also, there is no a priori reason for the sample responses to be biased. While the completed surveys are likely to be from users who quickly respond to emails, these are just likely to be individuals with strong preferences (not necessarily just those favorable towards Glider). And since the recipients were neither told what the survey was going to be used for nor how the answers were to be analyzed, there is no reason to suspect there will be bias in the answers. The invitation to participate in the survey and the questions themselves (listed later in this section) are stated in a neutral-fashion.<sup>3</sup>

The survey has many interesting results regarding Glider's impact. The table below summarizes the key results.

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<sup>2</sup>75,340 email invitations were sent, meaning the survey response rate was 6,126/75,340 or 8%.

<sup>3</sup>The email invitation was:

Greetings Glider customer! It's been a little over a year since our last survey and it's been a rather busy one. We have many options on the table for future Glider products, but we need some help from you to understand the possible directions and risks of Glider.

So if you can spare us 12 clicks, please take a minute to fill out the survey and help shape the direction of Glider for 2008 and beyond. Just click the link below. Thanks in advance for your feedback.

	Longer	No Effect	Shorter	
Effect on WoW Playing Time [glideplayeffect]	51.9%	37.2%	10.8%	
	0	1	2	3+
Extra WoW Accounts [extraglideoaccounts]	43.8%	31.7%	13.7%	10.8%
	0	1	2	3+
Re-subscribed WoW Account (after banned for using Glider) [accountsresubbed]	35.8%	41.8%	13.2%	9.3%
	Yes	No		
Would Lead to Play Other MMOs [glidelurenewgame]	53.9%	46.1%		

### Results from Survey of Glider Users<sup>4</sup>

Survey collection dates: 15 January 2008 – 18 January 2008

Sample size: 6126 surveys

Notes: Cell values are the percent of responses in the category listed in the column header. The `accountsresubbed` was only asked of Glider users who had an account banned due to their Glider usage (sample size = 2030). Variable-name in survey is listed in courier font in the left-most column.

<sup>4</sup>The specific survey questions and the available responses were:

`glideplayeffect`: “Which option below best describes the effect of Glider on your WoW playing habits?”

1. Glider made me continue to play WoW longer.
2. Glider made me stop playing WoW sooner.
3. Glider had no effect on how long I played WoW.

`extraglideoaccounts`: “How many extra World of Warcraft accounts have you signed up specifically to use with Glider?”

- 0
- 1
- 2
- 3+

`accountsresubbed`: “[If you have had a World of Warcraft account closed because of Glider] how many [accounts] did you resubscribe?”

- 0
- 1
- 2
- 3+

`glidelurenewgame`: “If Glider were available for another MMO, would that make you more likely to start playing that game?”

- Yes
- No

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All of the data indicates that Glider has beneficial effects on WoW. The first panel describes the effect of Glider on WoW playing time. Over half of the responses indicated that Glider led them to play WoW for a longer time. This is roughly five times the number who said it led them to play less. The second panel addresses the number of additional WoW accounts which Glider users open specifically to use with Glider. 56% of users opened at least one extra account, and the average number of extra accounts was at least 0.9 (in calculating the latter number, I presume that respondents in the top category opened three additional accounts while they may in fact have opened more than three). The third panel looks at Glider user responses to having their accounts banned for Glider usage (2030 responses, a third of the total, indicated they had at least one such ban). 64% of the respondents indicated they had re-subscribed at least one account, and the average number of re-subscribed accounts was at least 1.0 (I again treat the “3+” response as being 3 accounts re-subscribed). The bottom panel provides suggestive evidence on whether Glider is the reason a player subscribes to WoW at all. Over half of the respondents indicate that the availability of Glider for another MMORPG (multi-player online role playing game) would make it more likely that they would subscribe to that MMORPG.

In total the survey provides concrete evidence of many of the theoretical benefits of Glider mentioned in the original report. In particular it substantiates the claim that Glider can increase the WoW subscriber-base. There is direct evidence that Glider leads to increased WoW playing time and also to the opening of multiple user accounts (each account would have to pay a separate subscription fee). There is also indirect evidence of beneficial effects. Glider increases the likelihood that a player will subscribe to an MMORPG. This is consistent with the claims in the initial report that some users will only subscribe to a MMORPG if they have access to Glider, since this allows them to spend less time on early stages which they find less interesting to them.

The survey also points out another problem with the defense report. It was relatively easy to conduct this survey, with the data collected in only a few days time. It is hard to understand why a much larger company such as Blizzard could not have conducted their own survey of users to substantiate any of the demand-side damages that

they claimed to have suffered from Glider (described in Sections VI-VII of my original report). Until such as study is completed, it is difficult to give credence to any such damages claims.

### **III. The Prima Facie Case for Damages**

In my initial report I argued that the extremely strong performance of WoW, both in absolute terms and in comparison to other MMORPGS, was prima facie evidence against Glider having a negative impact (Section II in my original report). In this section I respond to potential criticisms of this argument. I also present new evidence from other MMORPGS that one of the stated problems (real money trade of gold) is not likely to be harmful.

#### **A. Relevance of Evidence**

The defense expert argues in his deposition that comparing WoW to other MMORPGs is inappropriate, and that WoW would be doing even better if Glider was not in the game (p200 of the deposition transcript).

The data on WoW subscribers are inconsistent with this criticism. The rate of increase in WoW subscribers is higher after Glider was released (June 2005) than before it. When Glider was banned (November 2006), there was no change in the rate of subscriber increases.<sup>5</sup>

It is also hard to rationalize WoW's relative success compared to other MMORPGs if Glider were having harmful effects. Most MMORPGs stop growing and begin to shrink in size a few years after its introduction. In contrast WoW continues to grow rapidly. This means that: new users are continuing to join WoW rather than other

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<sup>5</sup>All the points in this paragraph are based on monthly subscriber data, which were described in my original report.

games; few current WoW players are quitting. If Glider were significantly harming WoW, it is hard to understand why this would be occurring.<sup>6</sup>

## **B. Relevance of Time Series Data**

The defense expert argues in his deposition that looking at time trends, the main approach used in my report, is inappropriate without appropriate controls for other factors which influence demand (p201 of the deposition report).

It is hard to understand how this criticism can be used to explain the data. It is unclear what additional factors could explain the month-to-month changes in demand which I focus upon. The defense claim is that there is some as yet unidentified factor which is overwhelming the purported negative effect of Glider on subscription numbers or profitability. But during the period in question, there are no obvious changes which would have had a beneficial effect: there was no change in the subscription price, there was no large change in the competitive environment, and no significant improvements in the game (exempting the one-time Burning Crusade expansion in January 2007).

Unless a specific factor is identified which overwhelms the Glider effect, this criticism should not be given weight. The inability to suggest such a factor is telling. The defense has argued that Glider has significant effects, so this offsetting factor must itself have large effects. It should not be hard to find such an important factor, so unless one is clearly identified this criticism should be dismissed.

## **C. Additional Evidence: Other Games Allow Real Money Trade**

One channel by which Glider is claimed to harm WoW is through promotion of real money trade of gold (this point is discussed in Section VII. B in my original report). However, such sale of online currency is a central feature of several other leading online games. This indicates the activity is not per se harmful, and can in fact be beneficial.

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<sup>6</sup>WoW has continued to grow since the filing of my original report. There are now over 10 million subscribers ([http://www.gamasutra.com/php-bin/news\\_index.php?story=17062](http://www.gamasutra.com/php-bin/news_index.php?story=17062), last accessed 22 January 2008).

The first example is Electronic Artists (EA). EA had an online soccer game associated with the 2006 World Cup. While playing the game was free, players could buy-- using real-world currency—improvements in game-skills as well as decorative items like jerseys. A sizeable minority of users spent \$15-\$20/month on such items. EA is currently making a free new installment of its hit Battlefield series with just such a business model (the description in this paragraph is from the New York Times article, “The Video Game May Be Free, but to be a Winner Can Cost Money,” published 21 January 2008).

The second example is from Second Life. Second Life is the second largest online game with over 6 million subscribers (unlike WoW, most accounts are free). Second Life explicitly permits (and regulates) trading of in-game currency for US\$. Such trades take place at a currency exchange on the official Second Life website, which also links to third party sellers of currency (the description in this paragraph comes from these two pages, [http://www.informationweek.com/blog/main/archives/2007/04/linden\\_lab\\_to\\_o.html](http://www.informationweek.com/blog/main/archives/2007/04/linden_lab_to_o.html) and [http://en.wikipedia.org/wiki/Second\\_Life](http://en.wikipedia.org/wiki/Second_Life), both of which were last accessed on 8 February 2008).

#### **IV. Glider and Inflation**

One of the key damages which the defendant attributes to Glider is to the WoW macro-economy. In particular there is a claim that Glider leads to inflation due to an influx of gold. In this section I buttress some of the opposing arguments I have made (Section VII.A in my original report).

##### **A. Lagged Responses**

I argued that the Glider ban from late 2006 provided an opportunity to test the inflation link. Specifically I look at the time series of the dollar value of WoW gold: if Glider leads to inflation (the devaluation of gold), a Glider ban should result in higher gold values. However, no such increase was apparent during the ban period.

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One possible criticism of this is that gold values did in fact increase a month after the ban. While this is almost surely due to demand increases from the holiday season (gold values began increasing on 20 December 2006, a week before Christmas, and a month before the release of the “Burning Crusade” WoW expansion), it could be possible that gold values adjust only with a slow lag.<sup>7</sup> It is possible to test this using the gold-farmer bans which also took place in 2006. If bans only have an effect on gold values a month or more later, this should be true when gold farmers (a purported source of WoW inflation) are removed from the game.

In fact gold values adjusted nearly instantaneously following the gold farmer bans. This is inconsistent with the claim of a lagged response. To be specific, there were two large gold farmer bans reported on the official WoW website: one in early May 2006 (over 30,000 accounts banned) and a second in June 2006 (59,000 accounts banned). The dollar value of gold rose 57% during May and another 18% during June.<sup>8</sup> These are among the largest percentage increases in gold values during all of 2006.

## **B. Price Distortions**

I argued in the initial report that inflation was not per se harmful since it increases since it benefits players who are selling goods and who enjoy the resulting higher price. The deposition of the defense expert points out (p126-127 of the deposition transcript) that one way in which inflation could cause systematic harm is if it had an uneven effect

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<sup>7</sup>The slow response of gold-to-dollar exchange rates can not be grounded in real-world economies. Under the defense theory, the removal of Glider users should also eliminate substantial gold holdings. This is akin to a change in the money supply, which is known to have a nearly instantaneous impact on currency exchange rates.

<sup>8</sup>The May 2006 ban was reported in the 9 June 2006 posting at <http://www.worldofwarcraft.com/news/wow-news-06-2006.html> (last accessed 4 February 2008). On 30 April gold was priced at a mean of \$0.07/gold and by 31 May it reached \$0.11/gold (sources for gold prices are listed in my initial report).

The June 2006 ban was originally listed in the 25 July 2006 posting at <http://forums.worldofwarcraft.com/thread.aspx?fn=wow-general&t=9241678&p=1&tmp=1#post9241678> though this link is no longer available (it is referenced and quoted at several additional sites: <http://www.theagn.com/forum/archive/index.php/t-896.html>, <http://www.gamespot.com/pc/rpg/worldofwarcraft/news.html?sid=6154708>, <http://kotaku.com/gaming/world-of-warcraft/59000-gold-farmers-expelled-from-wow-190181.php> all of which were last accessed 4 February 2008). Mean gold prices increased to \$0.13/gold by 30 June 2006.

on the prices of different goods. If certain good appreciated in price faster than others, there could be distortions in the relative rate at which this good was traded.<sup>9</sup>

However, there is no evidence of asymmetric price changes, and in particular no evidence that such price asymmetries could be linked to Glider usage. While I have not been able to obtain detailed price data on specific goods, the site <http://www.wowecon.com> provides time series for different goods each day. There are no clear patterns in the prices (gold per unit of the good) nor have I been able to find certain goods which consistently have prices increases above or below all others (I accessed this site daily over the last two weeks of January 2008).

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<sup>9</sup>The defense expert also argues that inflation can cause damages by hindering the ability to plan for the future (p127 of the deposition transcript). This is incorrect. It is uncertainty which causes problems. If inflation is consistently high, then there is no problem with planning. There is no reason given why Glider should lead to greater volatility in prices.