

## Reply to Referee Report #1

First, I would like to thank to the reviewer for his/her efforts and valuable comments. It is an honor for me to be aware that someone struggled to understand something that I tried to develop. Below, I dispose my replies (in blue).

### Comments

1) The paper provides plenty of real world examples. However some are not fully described (e.g. Pokerstars) or are reported in a slightly unconvincing way (e.g. console industry). Competition among newspapers is nicely described, but it may create a little confusion, given that *indirect* network externalities play a very important role in this sector.

This comment is very important. I should clarify in a footnote that network effects can be classified as:

**Direct network effects:** the increment in usage leads to a direct increment in the utility of a certain agent. The original example provided by IO literature is the telephone service. Essentially, the more people who own telephones, the more valuable the telephone is to each owner (Katz and Shapiro 1985).

**Indirect network effects:** an increment in usage of a certain product increases the production of valuable complementary goods, from which results an increasing value of the original product. “A DVD player becomes more valuable as the variety of available DVDs increases, and this variety increases as the total number of DVD users increases” (Clements 2004).

I study direct network effects in a one-sided duopoly à la Zacharias and Serfes (2012). The goal of providing real world examples is to facilitate the comprehension of the network effects' role and not to confuse the audience. My availability is total to change the number of provided examples and, for instance, to focus only in one convincing example (if necessary).

2) Similar to Serfes and Zacharias (2012) the paper considers sequential entry. No explanation/motivation is provided to support this choice here. I guess that the reason has to be found on the possibility of multiplicity or non-existence of equilibria.

The referee is totally correct.

A pure strategy Nash equilibrium fails to exist when the two intermediaries locate simultaneously (when the network effect is intermediate). As a result, I would not obtain an asymmetric location equilibrium.

3) The concepts (and their importance compared to standard results in spatial economics literature) of asymmetric location equilibria and tipping equilibrium need a little more explanation. For the reader unfamiliar with the analysis in Serfes and Zacharias (2012) some of the statements appear a little obscure and it is somewhat difficult to assess the importance of the contribution of the paper. In its present form, the reader has to reach page 13 (Appendix) to have a definition and description of tipping. At a minimum, the concept of tipping should be defined and clarified in the abstract and in the introduction.

This comment relies on the organization of the manuscript.

My paper follows Serfes and Zacharias (2012). The concept of tipping in Serfes and Zacharias (2012) requires to understand that  $x=1/2$  is a focal (or attraction) point. Therefore, the platform that is closer to such location absorbs the whole market (since I assume no quality gap between them). When both platforms are equidistantly located from the city's center, I consider (as in Serfes and Zacharias 2012) that all agents join platform A (since this platform is the first mover in the location choice).

Serfes and Zacharias (2012) assume this exogenously without disposing any additional reason and to me it seems a realistic consideration.

Based on an argument of allocative efficiency, the methodology adopted in the manuscript's organization is:

- (i) Dispose the main text in 11 pages (which is normally what the experienced audience reads);
- (ii) Dispose the 22 pages of a full technical Appendix afterwards (which is normally what the unexperienced audience reads).

My availability is total to change the organization of the manuscript (if necessary).

4) It would be helpful if the location of the potential entrant described in section 4 could be accompanied by a figure.

I totally agree.

Such Figure is already present in Gabszewicz and Wauthy (2012). My availability is total to incorporate the figure (if necessary).

5) The paper could be shortened, probably even turned into a note, in particular making use of the fact that the main framework is borrowed from Serfes and Zacharias (2012). If the paper were left in its present form, probably I would like to see some information currently in the Appendix to be moved to the main text (see point 3 above, c and d below).

I totally agree.

The paper is a research note. My availability is total to change the organization of the manuscript or to have a shortened paper (if necessary).

### **Minor points**

- a) Footnote on page 1. No need to state “Corresponding author”. In addition “usually” should read “usual”.
- b) Bottom of page 5. “We focus our analysis in” should read “We focus our analysis on”
- c) Page 6.  $\hat{\lambda}$  is not defined in the main text.
- d) Lemma 3 describes the likelihood of equilibria. The likelihood measure used should be described in the main text.
- e) Page 9, section 4, line 4. “make” should read “makes”.
- f) Some expressions in the text are a little awkward. E.g. footnote 8, “Such strategy is *assiduously verifiable*”. A comprehensive English proof-reading should be undertaken.
- g) In the references, entries [14], [15] and [16] have the same title and authors. [14] and [15] seem to be incomplete.

I am very grateful for finding the above typos. A comprehensive English proof-reading will be undertaken to meet scientific standards in the revised version of the manuscript. My sincere apologies for this fact.

### **References**

Clements, M. T. (2004). Direct and Indirect Network Effects: Are They Equivalent. <http://dx.doi.org/10.2139/ssrn.313928>

Gabszewicz, J. J. and X.Y. Wauthy (2012). Nesting horizontal and vertical differentiation. *Regional Science and Urban Economics* 42(6): 998-1002.

Katz, M.L. and C. Shapiro (1985). Network Externalities, Competition and Compatibility. *American Economic Review* 75: 424-40.

Serfes, K. and E. Zacharias (2012). Location Decisions of Competing Networks. *Journal of Economics & Management Strategy* 21(4): 989-1005.