**Comment:** The paper needs to re-format its references. Currently the paper is unreadable due to its reference formating since most of the references and tables/figures do not conform to the numbering scheme provided in the body of the paper. For example page 9 line 44 "power law distribution [14],". Since the references are by author names, the reader is expected to count the reference to arrive at it. Please change the reference format for this paper.

**Reply:** We are sorry for this unfortunate compilation error. It was corrected.

**Comment:** Page 2 Line 50: Please provide a well-known reference of a best-first search. For example: (Vempaty 1991). You can choose a better example. The idea is to help a reader who has not come across a best-first search.

**Reply:** TBD by Ariel

**Comment:** Related Works: The paper mentioned Profile Attribute Prediction as a related topic to the paper. Although the reviewer agrees to this premist but feels like web search can be an ideal candidate for relevant literature review. The similarity of TONIC with web search is the fact both of these techniques look into a special graph for targeted nodes.

**Reply:** We agree with the reviewer that focused web crawling is more relevant to current work than link or profile attributes prediction. We have extended the discussion on web crawling and moved it to the beginning of related works section. In addition to the fish- and shark- search methods we added the following focused search methods:

*Most focused crawlers are based on relevance of the webpage content to the topic being searched. Webpage relevance is measures in terms of TFIDF, cosine similarity and alike~\cite{diligenti2000focused,menczer2001evaluating}. Some works employ machine learning to classify webpages according to their content~\cite{chakrabarti1999focused}. \citeN{wang2010focused} propose a focused search approach that is based on the words surrounding the prioritized hyperlink. Topology-wise these focused crawlers employ mainly hubs and authorities (HITS) and PageRank centrality measures \cite{almpanidis2007combining}. But all approaches agree that URLs (pointers to webpages that were not crawled yet) need to be ordered intelligently in order to increase the relevance of obtained documents~\cite{cho1998efficient}.*

*Several of the works mentioned above employ Bayes rules to aggregate evidence on the relevance of URLs. In this paper our champion \(BysP\) heuristic (see Section 5) aggregates topological evidence and does not require preliminary content extraction (neither in form of the webpage snippet nor in form of the text surrounding the hyperlink). Content and topology analysis are orthogonal approaches that can complement each other in future developments.*

**Comment:** Page 6 Para 2 Lines 18-22: The reviewer feels that the Heuristic search in an Unknown Graph is more relevant than Link Prediction (See last comment). Please elaborate on this section and (if necessary, due to page constraints) reduce section 2.1.

**Reply:** The discussions on attribute and link prediction were significantly shortened focusing only on insights and measures that are utilized in current work.

Ariel/Roni TBD on heuristic search in unknown graphs.

**Comment:** what is the different between the task/approach in this paper and heterogeneous networks? It is clear that a lead could be a profie exposes information about the target, while heterogeneous networks could be built by extending the target by connected profiles or information. heterogeneous networks/graphs have been deeply discussed and explored in various applications and domains. I hope the authors can introduce related work and distinguish it from their own work here.

**Reply:**

**Comment:** The related work is not sufficient and appropriate. The authors should carefully review related work in graph sampling and survey sampling methodology. For example, related work like [Ref 3,4] have discussed more conditions (such as graph structure) and sampling criteria (such as representativeness) that are relevant to this problem.

**Reply:**

**Comment:** The writing of the paper seems pretty rough. The citations and references are in different formats and hence are difficult to correspond.

**Reply:** We are sorry for this unfortunate compilation error. It was corrected.