



Perceptual errors in judgment can be more for LESS: Downsizing is less accurate than upsizing for both quantity and price



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INTRODUCTION

Millions of snack portions are purchased daily where consumers need to make perceptual estimations both in online and in-store shops. It is imperative to understand how consumers respond to changes in quantity and price.



Research evidence suggests that

- Visual cue plays a role in modulating food perception (Zhang, 2014)
- Consumption is driven by the perceived cost and this phenomenon is frequently used in price tactics (Gourville and Soman, 2002).
- Perceptual judgments made by participants in experiments, when asked to estimate a given stimuli, have shown that the responses are influenced by the experimental context in which the stimuli are presented (Matthews and Stewart, 2009)



A question of interest arises: are people bad at estimating quantity (specific effect) or are they bad at estimating magnitude in general?

We suggest that it is also possible people might be using a reference-dependent anchoring and adjustment heuristic where the estimates will be dependent on the last reference from which they might adjust their estimations



METHODS

- One hundred and twenty nine people in the campus of Indian Institute of Technology, New Delhi participated for a five minute task.
- The three sizes were Small (54), Medium (160), Large (340). The cost of the three packages was Rs. 160 (S), Rs. 435 (M) and Rs. 1005 (L)
- In two studies conducted online **with pictures (n=108)** and **in-person (n=129)** with cookies packed in transparent polythene bags, half of the participants were asked to perform an upsizing estimation and the other half were asked to perform a downsizing estimation for quantity and price.

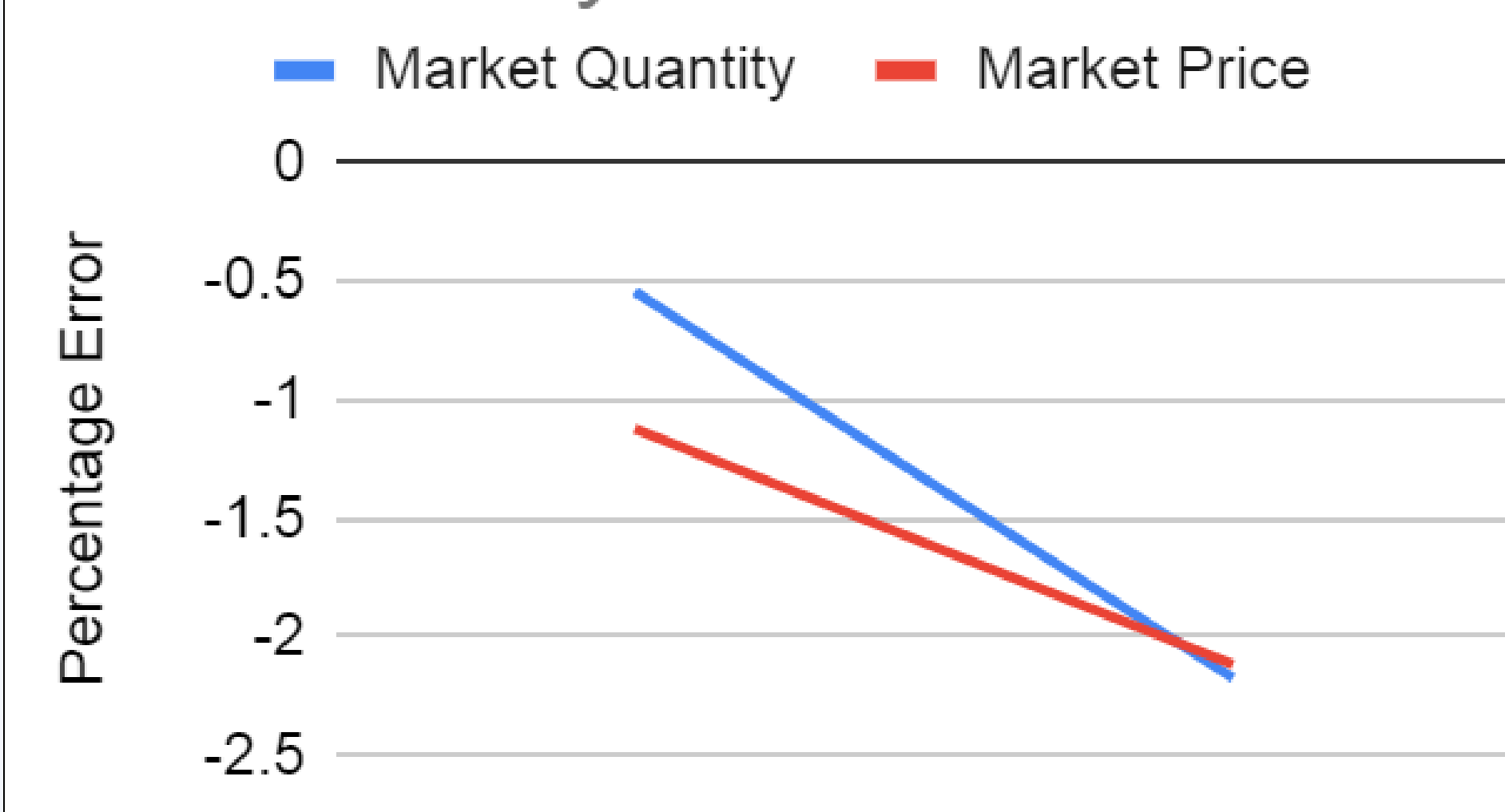
Actual and percentage errors were calculated for medium and the next portion (which was large in upsizing and small in downsizing).



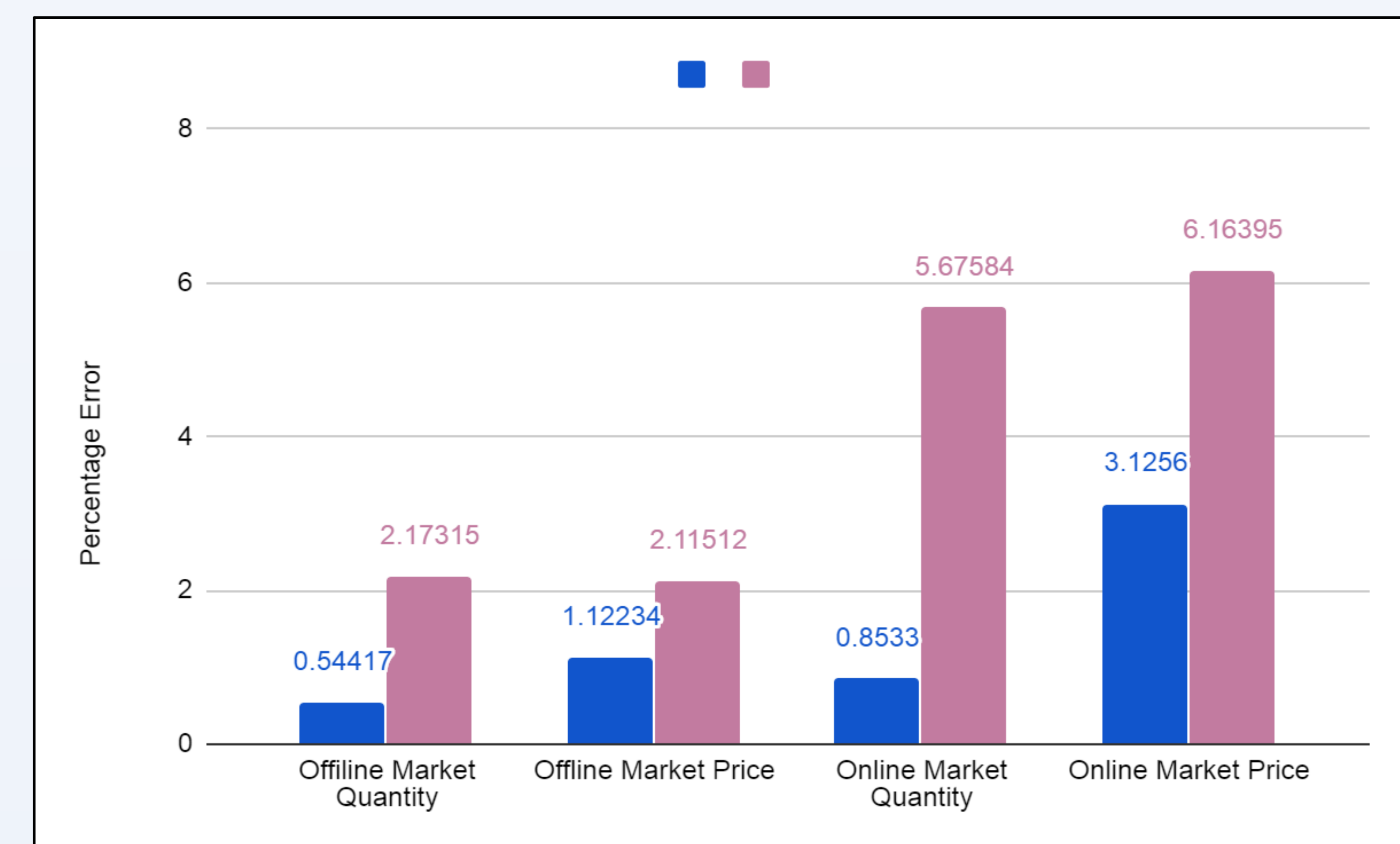
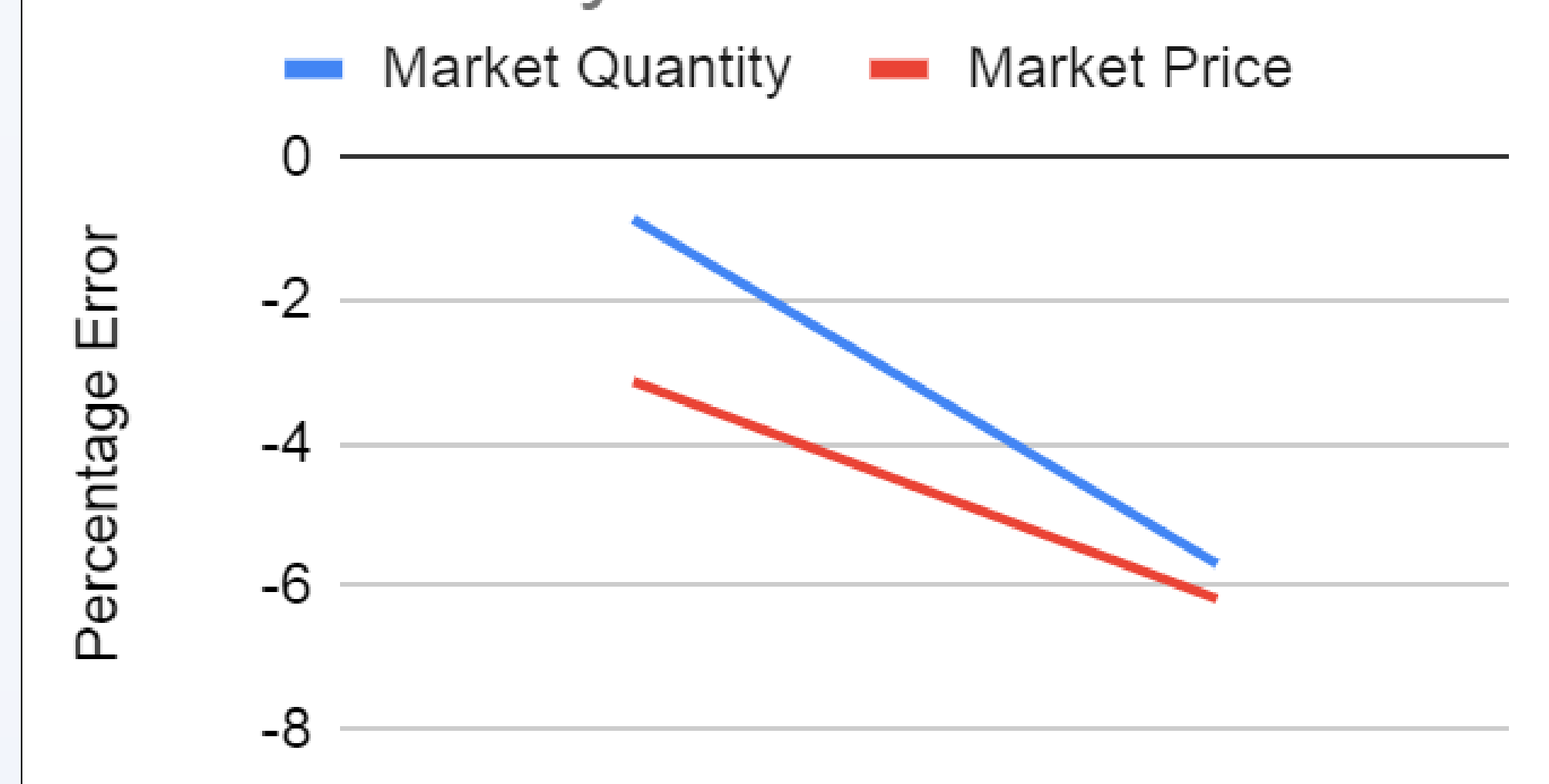
RESULTS

- T-test value for medium quantity was 0.81 and T-test value for medium price was 0.26. This shows that there was no significant difference between level one error.
- Level two error was computed for quantity and prices (small and large). T-test value for level two quantity 0.0317 and T-test value for level two price 0.0365.
- T-test value for medium quantity was 0.395 and T-test value for medium price was 0.0023. This shows that there was no significant difference between level one error.
- Level two error was computed for quantity and prices (small and large). T-test value for level two quantity 0.00000013 and T-test value for level two price 0.000000015.

Offline Study



Online Study



CONCLUSION

- Actual and percentage errors were calculated for medium and the next portion (which was large in upsizing and small in downsizing). For the online study, both actual and percentage errors of quantity and price estimations were significantly more for downsizing.
- In the in-person study, the results showed a similar effect but the size of errors were reduced. Thus, more perceptual errors were found during downsizing supporting our hypothesis based on the anchoring heuristic.

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