

# Building Reputations via Summary Statistics

Harry PEI\*

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**Abstract:** A patient seller interacts with a sequence of consumers. Each consumer decides whether to trust the seller after she observes the number of times that the seller took each of his actions in the last  $K$  periods, but not the order with which these actions were taken. I assume that the seller's effort and consumers' trust are strategic complements, and that with positive probability, the seller is a commitment type who exerts the highest effort in every period. I show that the seller sustains his reputation for exerting the highest effort in all equilibria *if and only if*  $K$  is below some cutoff. Although longer memories allow more consumers to observe the seller's opportunistic behavior, they undermine the seller's reputational incentives and lower consumers' welfare since they weaken consumers' incentives to punish the seller after they observe opportunistic behaviors. I also show that coarsening the summary statistics observed by the consumers may encourage the seller to sustain his reputation and may improve consumers' welfare.

**Keywords:** bounded memory, reputation sustainability, equilibrium behavior, action frequency.

**JEL Codes:** C73, D82, D83

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