

Market Systems as a Source of Individual Contributive Social Capital Scores

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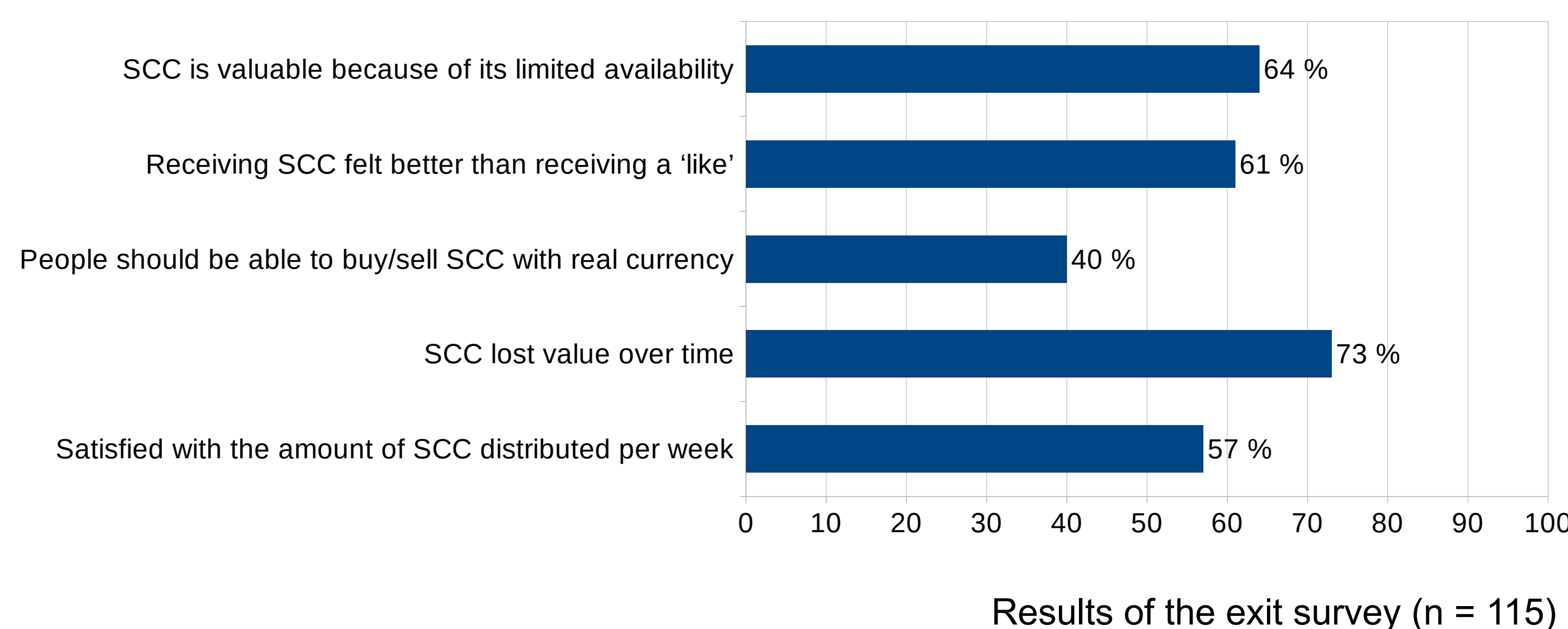
- Online communication: Is my conversation partner competent, telling the truth, interested in helping me?
- Reputation / feedback systems can improve transparency
- Reputation is closely related to Social Capital: “values obtained by being part of a social network”, “the sum of social resources” (N. Lin, 2001)

- Contributive Social Capital: Instead of asking about the resources someone can obtain, ask what resources that person contributes to the network.
- **Hypothesis: A notion of Contributive Social Capital can be derived from the value of an individual on a virtual social capital market.**

User Study

- 165 participants on a custom social platform + social capital market system for 9 weeks
- 100 units of Social Capital Currency (SCC) per user / week
- A transfer of SCC is associated with one of five categories. Receiving SCC increases the Contributive Social Capital Weight (CSCW) in that category.

- Increase is proportional to sender’s CSCW (reputation) and amount of SCC.
- Ground truth: Users rated others on a numeric scale in each category.
- **Statistically significant correlation between ground truth and CSCW supports our hypothesis.**



	Populism in Politics	Urban Life	Food and Sustainability	Trust	Social Responsibility
Populism in Politics	0.40 ***	-0.05	0.06	0.03	0.00
Urban Life	0.09	0.35 ***	0.17	0.14	0.28 **
Food and Sustainability	0.06	0.11	0.41 ***	0.15	0.14
Trust	0.05	-0.04	0.08	0.21 *	0.07
Social Responsibility	0.09	0.11	0.14	0.10	0.26 **

Spearman correlation of market assessment (rows) and ground truth (columns)
 Asterisks *, **, *** represent statistical significance at the 0.05, 0.01, and 0.001 level

Simulation Experiment

- 1000 agents exchange SCC; interaction frequency derived from human communication frequency (Miritello et al., 2013)
- Among all agents with true CSCW above the n-th percentile, an agent is “correctly assessed” if its predicted CSCW is also above the n-th percentile.

- After two years: > 90% of agents assessed correctly
- Inequality of SCC within the population grows quickly: Gini coefficient ~ 0.6
- Noticeable inflation, evidenced by continually increasing mean transaction size.

