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# Household Financial Systems

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## **Abstract**

In this paper we discuss some preliminary results of an ethnographic study focused on the ways money and financial issues are collaboratively handled within families. Families develop ‘systems’ or methods through which they organize and manage their everyday financial activities. These systems not only organize everyday family finances, but represent and shape family relationships. Through analysis of our ethnographic field study data, we develop four types of financial systems that we observed in the field: banking arrangements, physical hubs, goal-oriented systems and spatio-temporal organization. In this paper, we discuss examples of these systems and their implications for designing tools to support household financial practices.

## **Author Keywords**

Family finances, ethnography, HCI

## **ACM Classification Keywords**

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## **Introduction**

Studying the way people interact with their money and related financial instruments has become an important topic of research within HCI and CSCW communities [1, 2, 7, 8]. Previous research [2, 6] finds money to be an inherently social phenomenon, present in many social

institutions and interactions. Accordingly, people's financial behaviors and attitudes are shaped and affected by social aspects, especially family and household dynamics. Family members, including children, coordinate to support, contribute and manage different issues that relate to the budgeting and spending of money in the family.

Social science literature shows that within domestic settings aspects of domination, power and 'partnerships' are important when studying household finances [4]. The increasing complexity of financial instruments (e.g. credit cards) reinforces individualism, in parallel with the necessarily joint and coordinated efforts between family members in budgeting and decision making [3, 6]. Within the HCI community, a set of studies have explored the emotional aspects attached to family finances [2]; the different tactics people apply (such as delaying, prioritizing and hiding) in their monetary transactions [7, 8]; and ways to increase social capital in low-income populations [1]. It has been found that low income households employ creative methods to save money and get by on meager budgets [8], however higher income households have not been studied in this respect.

We carried out an ethnographic field study in seventeen families in the greater Brisbane area to explore a larger question about how families manage their everyday finances. In this paper, we provide some preliminary results focusing on the different systems families put in place to manage and budget their money.

### Study & Methods

Using online advertising and flyers, we recruited seventeen families around Brisbane, Australia. The

average household income of these families was \$104,000 per annum before tax, falling in the upper middle demography of income in Australia. All of our participants were either married or de facto, with ten families having dependent children living at home.

We visited our participants' homes and carried out semi-structured interviews focusing on their domestic financial activities and practices. We particularly focused on the different instruments and tools they used for managing their finances. The interviews were audio recorded and later transcribed. Using a grounded theory approach we analyzed our findings and in this paper we focus on the different means of thriftiness we observed of our participants, which existed largely irrespective of their household incomes.

### Four Systems

#### Banking Arrangement

All our interviews began with our participants drawing their financial organization in a flow chart. This exercise gave us a good starting point to study the collaborative banking arrangements that are in place. Figure 1 shows one such example where both the husband and wife pooled their salary into a joint bank account that was connected to savings, home loan and credit cards accounts. Individual banking arrangements varied across different families several common themes emerged such as most families having a joint account, direct debit being used for fixed expenses such as power bills and loans, and having a savings account for future purchases. All families had access to online banking and were comfortable using it.

Importantly, the financial arrangements made visible several social aspects such as trust within family, power

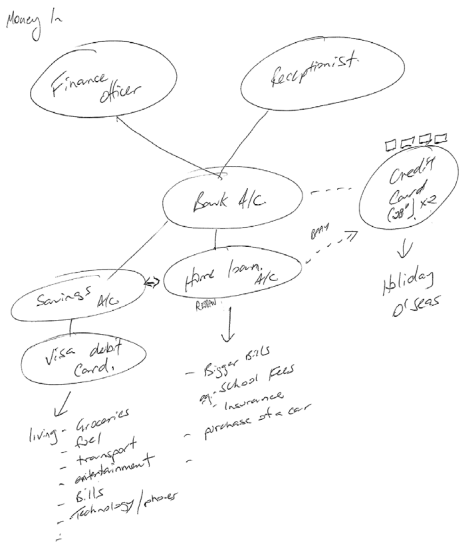


Figure 1. Banking arrangement of a family.

differences and specific priorities in life. One participant pooled her and her partner's salary into a joint account which was used to pay all the major bills. The family also had a savings account which was controlled by her, "I try to have at least \$500 per month savings.... I control the savings account. My partner has been a spender in the past and this way I want to have a proper control over our savings."

These banking arrangements never fixed and evolved as circumstances changed. One participant commented, "it kind of just happened". Participants updated and adjusted their banking arrangements depending on their changing family situations and in order to support their financial prospects.

#### Physical Hubs

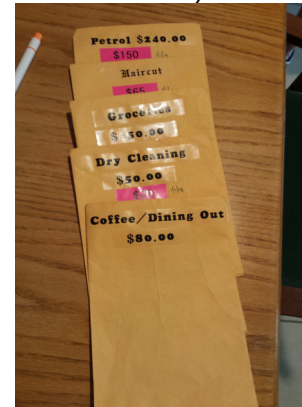


**Figure 2.** A financial hub.

Managing finances is closely aligned to other household activities. We found each home to have hub or organizational space; sites for organizing and coordinating activities and priorities such as sport, appointments, bill payments and other financial management. These hubs were typically in common areas of the house. Figure 2 is one such example where a family of two adults (in mid-forties) and three

teenage boys created a hub: "We have that orange thing up there. One section is for the primary school, one is for the high school. Things where money needs to be paid and when I sit at the computer and pay them..... It's not an exclusively bill paying systems and there's school stuff, but it is an organizer." As it is known within the CSCW community [5, 9], the public availability of such systems help family members coordinate their actions.

#### Goal-oriented Systems



**Figure 3.** Cash envelopes used to control overspending.

Other systems existed specifically for short-term financial goals. These systems were often related to increasing savings, controlling overspending or saving for a specific goal such as a holiday. Figure 3 shows an example from a couple in their late fifties. They developed a system where they would use a set of envelopes, in which pre-budgeted amounts of cash were kept for specific expenses such as petrol, dry cleaning and dining out. This system was used as a means of self-control to prevent overspending: "What



(a) A bill attached on a fridge surface



(b) A box folder with all the recent bills



(c) A filing cabinet for longer term storage

**Figure 4.** Spatio-temporal organization of finances.

*we do is use cash envelopes for discretionary spending each month. Coz historically we were really bad with finances. And what we discovered was that if we've got cash in an envelope then we don't overspend."* Other examples included keeping savings aside in a coin jar that could only be opened with a can opener; and a holiday "kitty" where the cash had already been converted into Rupiah so it couldn't be spent until the holiday.

#### *Spatio-temporal Organization*

Finally, our study revealed that financial objects such as bills, notices and other documents traverse across different physical placeholders in homes at different stages. For example, a recently received bill would often go on the fridge first or other publicly visible places in the house until it was dealt with or paid off. The public availability of the object increases awareness of it [5] and, in these cases, serves as reminder. Following payment, some participants would enter the bill details into a record keeping instrument such as a spreadsheet with the paper bills filed in a folder. In some cases, paper-based records lasted 3-6 months. Figure 4 shows some example placeholders that were used by one of our participants.

#### **Discussion & Future Work**

Managing finances is a routine process intimately related to household activities, household dynamics and physical places within the home. This paper showcases our preliminary findings on the topic of family finances and in particular, the different financial systems we found in place. Our findings showed that family members resourcefully utilize these systems to be able to be on the top of their finances. While systems varied considerably between participants, every system

worked for the family, even if it did not make immediate practical sense. We plan to increase our repertoire of knowledge by involving families from low income demography in this process. Our eventual aim is to develop tools to support interaction with money in the domestic settings.

#### **References**

- [1] Dillahunt, T. R. Fostering social capital in economically distressed communities. In Proc. of CHI 2014, Toronto, Canada, ACM Press (2014)
- [2] Kaye, J., McCuiston, M., Gulotta, R., Dhamma, D.A.: Money talks: Tracking personal finances. In Proc: CHI 2014, Toronto, Canada, ACM Press (2014)
- [3] Pahl, J. Family finances, individualisation, spending patterns and access to credit. *The Journal of Socio-Economics*, 37(2), 2008, 577-591.
- [4] Phipps, S., & Woolley, F. Control over money and the savings decisions of Canadian households. *The Journal of Socio-Economics*, 37(2), 2008, 592-611.
- [5] Schmidt, K. (2002). The problem with awareness: Introductory remarks on awareness in CSCW. *Computer Supported Cooperative Work (CSCW)*, 11(3-4), 285-298.
- [6] Stocks, J., Díaz, C., & Halleröd, B. Modern couples sharing money, sharing life. 2007.
- [7] Vines, J., et al. The joy of cheques: trust, paper and eighty somethings. In Proc. of CSCW 2012 (pp. 147-156). ACM Press (2012).
- [8] Vines, J., Dunphy, P., & Monk, A. (2014). Pay or Delay: The Role of Technology When Managing a Low Income. In Proc. of CHI 2014. Toronto, Canada, ACM Press (2014).
- [9] Vyas, D., Van Der Veer, G., Heylen, D., & Nijholt, A. (2009). Space as a resource in creative design practices. In *Human-Computer Interaction-INTERACT 2009* (pp. 169-172). Springer Berlin Heidelberg.