

#01052-AB

**UHAB's *Connecting Low-income Communities to
Develop "Digital-Age" Skills***

FINAL EVALUATION REPORT

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December 2004***

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I. Introduction

Goals and Objectives (of UHAB/Evaluation/Project)

In order to reach their goal of preserving affordable cooperative housing, UHAB provides HDFC/TIL co-ops with training, technical assistance, and support for the residents to own and manage their buildings. UHAB's *Connecting Communities* (technology project) began with the aims to increase and improve these services through the following projects:

1. Wiring co-ops for broadband Internet and providing co-ops with discounted/donated computers;
2. Creating an accessible website for co-ops which provides online access to a range of services, resource directories, and training materials;
3. Training co-op residents in basic computer use, and developing and providing a computerized bookkeeping service and training program;
4. Distributing online bookkeeping software of that will enable HDFCs' leaders to maintain the coop's books by themselves, with the easy online assistance from UHAB staff.

By engaging in the above projects, UHAB aimed not only to increase its ability to provide more services to more buildings more efficiently, but also to empower co-op residents with more self-help services and job-required computer skills, while laying down the infrastructure for increased communication between co-ops.

The goals of this evaluation were to:

1. Provide a baseline information of the technology level in the HDFC community;
2. Estimate the need among this population for owning computers and computer skills;
3. Enable an understanding of the ways to accomplish these goals;
4. Assess UHAB achievements and accomplishments of their goals.

As the project evolved, UHAB explored each of these different aims and determined their feasibility and the extent to which they served the more general purpose of supporting the HDFCs who are their clients. By the end of the grant period, we as evaluators would say that the number of aims has been reduced to the following:

1. Improve the use of electronic technology as a means of providing information and assistance to existing and prospective HDFCs.
2. Develop bookkeeping software that meets the unique needs of HDFCs, train leaders in its use, and integrate this with UHAB training in the future.

The narrowing of aims represents significant learning on UHABs part about its own capacities and the capacity of the market to meet many of the earlier identified aims of the project.

II. Evaluation Methods

In order to evaluate different goals and different dimensions in this project, multiple methods were used for identifying the baseline characteristics of UHAB's target populations; the quantity and quality UHAB's website contents and usages, and UHAB's internal communication for supporting this project.

Survey

I. Long survey (2002 summer)

A survey was administered by UHAB's VISTA volunteers in the spring and summer of 2002. Meetings were held between the Housing Environment Research Group (HERG) of the Center for Human Environments (CHE) at the City University of New York (CUNY) Graduate Center and UHAB representatives to discuss UHAB's plans to reach out to the HDFC community. This survey aimed at providing baseline information and helping UHAB to direct the future plan.

A random sample was drawn from a complete database of HDFC building leaders in four of the boroughs of New York City (Manhattan, Bronx, Brooklyn, and Queens). After three phone call attempts with no response, the respondents were replaced. When the sample list was exhausted, a new sample was drawn. The response rate was 76% over all of the survey outreach.

The survey questions covers the leaders' access to and use of computers and the Internet for personal needs and building management, as well as the co-ops' physical condition, financial condition, management, and shareholder involvement. Between July and August 2002, 163 surveys were obtained from 161 HDFCs (almost 10% of New York City HDFCs). The distribution of the respondents between the boroughs is as follows: 100 respondents from Manhattan (11.5% of Manhattan HDFCs), 37 respondents from the Bronx (10% of Bronx HDFCs), 25 respondents from Brooklyn (over 5% of Brooklyn HDFCs), and one respondent from Queens (11% of Queens HDFCs).

II. Short Email survey (winter 2002/2003)

UHAB launched a series of online services at the beginning of 2002 winter. In order to provide a baseline for UHAB's *online* services, a short survey was designed and distributed through emails near the beginning of UHAB's new website launching. Email addresses were acquired from three different sources:

1. Information from the long survey conducted in 2002 summer;
2. UHAB Newsletter subscribers, and
3. Another HERG-conducted survey data of HDFCs residents in the Clinton area (mid-town west Manhattan.)

The email survey was sent out in early December 2002 for the first time, and followed by a reminder email for those who have not responded in late January of 2003. We sent out the survey (comprised of 23 short questions) to a total of 104 recipients, but received only 9 surveys back. 26 were returned as invalid email address.

Open interviews (100% wired building)

Focus groups

Three focus groups were conducted during the evaluation period with different UHAB's target populations.

1. Buildings to be wired

The first focus group was conducted during the promotion of low-cost computers and Internet access. The focus group was conducted in 414 E 10th Street, one of UHAB target

buildings. After UHAB staff marketed the high speed Internet access and free/ low-cost computer package, we talked to the residents about their expectations and concerns.

2. 100% wired building

Second focus group was conducted with residents of 140th street that was fully wired under UHAB's technology project. The purpose of the focus group was to examine how the technical equipment and the internet service operate and are being maintained, and how this technological change effects the life of the residents and management practices.

3. *Connected Books* beta-testers

UHAB in cooperation with High Caliber have been developing an online bookkeeping software specifically designed for HDFC buildings. In order to tailor this software, UHAB recruited volunteers to test the bookkeeping program during June, July and August of 2003. To better understand beta-testers experiences, CUNY-HERG conducted a focus group in September of the same year. We invited all beta-test participants to the focus group, and 11 out of 17 people came. The topics we discussed in the focus group included: how did they first hear about *Connected Books*, why did they decide to take the class, what were their expectations, the pros and cons of using computerized bookkeeping software, whether *Connected Books* has changed the way their building conducts bookkeeping, payment and recommendations.

Meetings with staff members

During the evaluation period, meeting with staff members leading the technology project were held every few months. The purpose of the meetings was two-folded:

1. To get updated on current activities and operations of UHAB's technology staff and the success and challenges that they encountered;
2. To discuss and re-evaluate UHAB's goals for the project and means to obtain those goals in order to focus and crystallize the scope of the project. Following the meetings, notes with the agreed upon future operations were delivered to the participants.

Interviews with staff members

Several phone interviews were conducted with UHAB's staff members. Periodic phone interviews were held with the executive officer of the technology project, Dick Heitler, and with the project director, Jared Goldstein, in order to obtain constant updates on the project's progress.

Two phone interviews were conducted with field coordinators of Harlem and Brooklyn bases in regard to the *Connecting Books* efforts. And informal interviews were contacted with UHAB's VISTAs in regard to their function in the technology project.

Website usage tracking

Based on the information of UHAB website tracking database, we tracked the usage of their newly-developed website (uhab.coop.) The database contains information for both quality and quantity of website usage, which includes times and length of visits, hits, repeated visits, and the most popular web pages. The tracking dates are between July 2002 and March 2004.

Training session observation

A participant observation of a training session on *Connected Books* finalized software was conducted in September 2004. Nine residents representing 6 buildings participated in a three hours class on the program's functions and operation.

Follow-up interviews with beta-tester of Connected Books

Phone interviews were conducted with *Connected Books* beta-testers who participated in the September 2003 focus group. Once the software was ready and was offered for free trial, the interviews (conducted in October 2004) provide longitudinal data on the value, quality, and potential success of the program from the perspective of building leaders.

III. Evaluation Findings

The technology project went through many modifications and adjustments to respond to changing needs of the HDFC community and to the ability of the organization to provide substantial service that will meet the goal of sustaining the community.

Throughout the process of focusing their technological mission, each phase of the project yielded a product. These accomplishments are evaluated in the following section.

Baseline of digital technology use

In this section we summarized the findings of the 2002 summer long survey, in order to provide a basic picture of UHAB's target population, including demographics and digital technology use.

1. Sample Demographics

The survey was completed by 163 HDFC residents in four of New York City's boroughs. Most of the respondents to the survey were females (74%). Since the sample was drawn from the building leaders data set, this percentage indicates a high level of participation of females in the buildings' management.

The demographic data should be interpreted with caution. Building leaders are a part of this community, but we have learned from previous studies on HDFCs that they tend to have slightly different demographic characteristics (i.e. higher education levels) than the average resident. In addition, the fact that in all but two cases there is only one respondent per building might have an effect on the degree to which the sample is representative of the HDFC population as a whole. However for substantive issues, building leaders are good informants concerning building affairs and computer ownership/usage.

Table 1: Demographics Summary

	Mean	Standard deviation
Age	57	13.98
Yearly household income	5.78 ^a	2.75
Education	4.02 ^b	2.22
Length of residence (years)	23	11

Monthly co-op charges	\$410.14	\$141.43
# of people living in household	2.74	1.45

^a 5 = \$20,001 to \$25,000; 6 = \$25,001 to \$30,000

^b 4 = Vocational or Trade School; 5 = Some college

2. Computer Ownership and Use

The majority (over 61%) of survey respondents reported computer ownership, while only 49% of the respondents reported knowing how to use a computer (see Table 2). Table 3 presents the interest level of the respondents who do not own a computer in becoming computer owners and that of the respondents who do not know how to use a computer in learning computer usage. The regression analysis shows that **more highly educated people are more likely to own computers and know how to use computers. Younger people are more likely to know how to use a computer and also show a trend towards more ownership.** Residents who participate more in shareholders' meetings also show a trend towards more computer ownership and knowledge. **An interesting finding is that the number of building officers who know how to use a computer has a significant influence on residents' knowledge of using a computer.**

Table 2: Computer Ownership and Knowledge Distribution

	Yes	No
Computer ownership	61% (100)	38% (62)
Computer knowledge	49% (80)	37% (60)

Table 3: Interest in Computer Ownership and Knowledge

	High priority	Somewhat priority	Low priority
Computer ownership	26% (16)	14.5% (9)	35.5% (22)
Computer knowledge	28% (17)	26% (16)	31% (19)

Although it seems that only less than a third of the respondents are interested in becoming more knowledgeable about computers, when asked if there are any particular computer skills that they would like to learn, **most respondents (over 61%) wanted to learn specific computer skills.** Of those, 72% owned a computer, and 58% knew how to use a computer. The respondents were interested in the following computer skills:

- 19% would like to learn everything from basic operation to more complicated programs.
- 13% would like to learn accounting and bookkeeping programs.
- 11% would like to learn how to use Microsoft Word.
- 8% would like to learn about Internet use.
- 6% would like to learn advanced use of the Internet, such as web-page design.

- Some respondents specified a particular program they would like to learn: Excel (12%), PowerPoint (7%), and Access (4%).

3. Internet Accessibility and Usage

The majority (54%) of the respondents has access to the Internet, and 52% have Internet access available from their home (only 5.5% reported Internet access from work or the public library). The respondents who had Internet connection at home were using the following Internet providers:

- AOL is the most common Internet provider, used by over 62% of the respondents
- MSN (8%)
- Verizon (7%)
- RoadRunner (6%)
- Other providers such as AT&T, RCN, Big Planet, CableVision, Net Zero, and Compuserve were each mentioned by only one or two respondents.

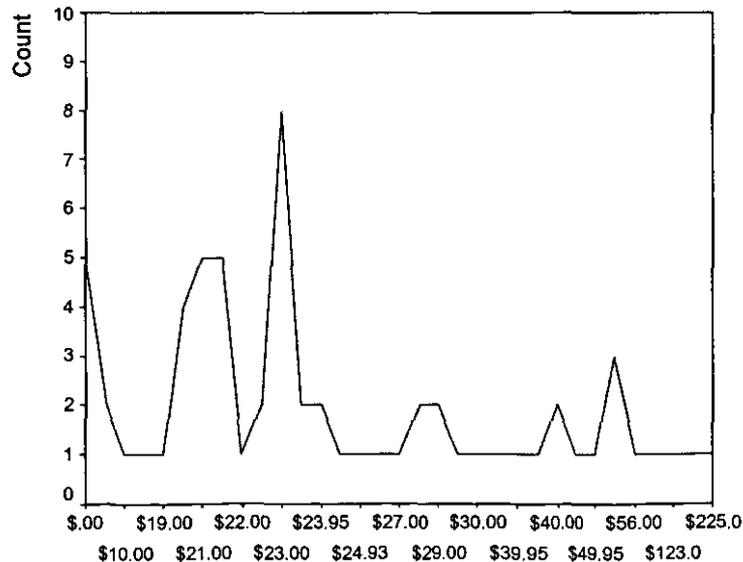
For the respondents who have Internet access from home, the type of connections they used was as follows:

- Over 31% dial-up connection .
- 15% DSL
- 15% Cable

Out of 85 respondents with Internet access at home, only 57 respondents answered the question about the type of connection they have. It is possible that the survey respondents are not the primary users of the Internet in the household and did not know the specific type of connection. **Younger respondents who have completed higher education and earn more income are more likely to have Internet access.**

The cost of Internet service varied over a wide range, as shown in Chart 1 below.

Chart 1: Internet Monthly Costs



N = 64 ; Missing/Refused/Don't Know = 99

Internet cost varies among different connection type, as summarized in Table 4. About half of the residents still use a dial-up connection and spend an average of \$25 per month. Thus UHAB's ability to provide faster Internet access with similar or lower prices may be attractive to residents.

Table 4: Internet Cost by Connection Type

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
56K Modem	23	\$25.4561	\$8.9328	\$1.8626	\$9.95	\$56.00
DSL	10	\$38.5940	\$12.1071	\$3.8286	\$21.00	\$50.00
Cable	10	\$58.8750	\$66.7274	\$21.1011	\$9.95	\$225.0
Other	3	\$22.3000	\$.6062	\$.3500	\$21.95	\$23.00
Total	46	\$35.3713	\$33.8461	\$4.9903	\$9.95	\$225.0

For the respondents without Internet access from home:

- 37% said getting connected to the Internet is not a priority.
- Over 45% place home connection to the Internet as at least somewhat of a priority [15 somewhat, 13 very important, N=62].

For those who do not have Internet access from home but have considered/tried to get connected, 7 respondents say that they are not connected because the cost of Internet access is too high, and 6 respondents do not want to tie up their phone line.

Based on the household composition analysis, households with **multiple adults with no children show the least percentage of computer ownership, computer use, and Internet access**. Having kids in the household significantly increased the knowledge of how to use a computer and Internet accessibility. These results indicate that households without children may be the most underserved HDFC residents.

4. Personal and Building Levels of Technology Use

Respondents were asked about the kinds of activities for which they use their computer. The majority use the computer for personal e-mails, preparation of letters and flyers, and taking meeting notes. Among the respondents, there is a low frequency of using a computer for managing the buildings' accounts, contacting public officials, emailing other buildings, visiting the HPD/Development of Finance websites, e-mailing UHAB, and visiting the UHAB website. The activities that UHAB believes can contribute greatly to building management are not very frequent. These are the activities that UHAB aims to improve, and the change in their usage will be evaluated at the end of the grant period. Table 5 presents the distribution of computer usage among different activities.

Table 5: Technology Use

Activity	Yes
Personal email	67 (67%)
Letters, flyers, or other communications	64 (64%)

Take meeting notes	53 (53%)
Find out about current events	43 (43%)
Keep track of building accounts	36 (36%)
Email Professional consultants	24 (24%)
Contact public officials	23 (23%)
Email others in the building	20 (20%)
Visit HPD/Development of Finance websites	22 (22%)
Email UHAB	11 (11%)
Visit UHAB website	7 (7%)

- The information is based on 100 respondents who are computer owners.

The results of the regression analysis show that **younger and more highly educated people use more technology**. Residents who have lived longer in the building, earn a higher income, and participate more in shareholders' meetings also showed a trend towards more technology use.

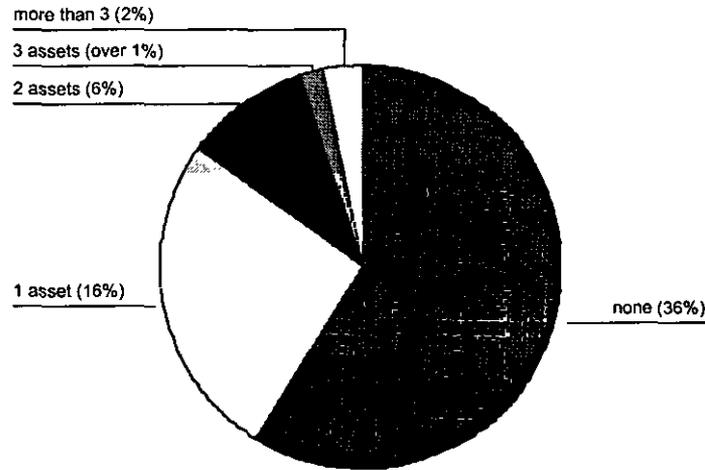
Some of the HDFCs have a computer in the building for the building's use. In 45 HDFCs the computer is located in the apartment of one of the building's officers, while in 24 HDFCs the computer is located in the building office/meeting room. However, only 16 respondents reported that in their building all residents could use the computer. The location of the computers in the building significantly influences the access to the computers: **residents are more likely to be able to access computers when the computers are located in the building office**. In the survey report 28 buildings have an office but the computer is not located in it. Based on the research group's previous field experience, having an office or a meeting space in the building serves as a facilitator of social engagement and building meeting attendance, among other social capital variables. Our findings on the connection between office spaces and residents' computer use confirm that having an office space is a key component to improving both building technology use and building functioning.

A strong majority endorsed the Connecting Communities project goals, indicating the following would be very useful: a free computer for the building (69%), training a technology officer (67%), and developing a way for leaders to share information by computer (64%).

5. Assets and Technology

Respondents were asked if they had acquired any assets while living in the HDFC such as a second home, stocks or bonds, or savings of more than \$25,000. Chart 2 and Table 5 present the distribution of total number of assets the residents have acquired and the distribution crossed with computer ownership and knowledge.

Chart 2: Number of Assets



N = 100 ; Missing; Refused, Don't Know = 63

Table 6 suggests evidence for a digital divide among the respondents where **those with more assets are also more technologically advanced** (shown by owning a computer and knowing how to use one). Hence, UHAB should focus on technologically advancing those with less wealth and means.

Table 6: Computer Ownership and Knowledge vs. Asset Accumulation

Assets	Computer Ownership	Computer Knowledge
0	64%	54%
1	68%	71%
2 +	80%	80%

When taking into account numbers of assets in the regression model along with other demographic characteristics and social capital variables to predict computer-related questions, the effect of assets is significant in technology use. People with more assets are likely to use computers in more activities. The number of assets has less effect on computer ownership and knowing how to use a computer, compared to other factors such as income and education.

The market analysis of the number of people who would buy a low-cost computer is built on the number of households in the buildings (question 12) and question 40 from the survey: “If UHAB were to be able to sell computers to building residents for \$400, how many people do you think would want to buy them?”. More than half of the respondents (64%) answered either an exact number or a rough percentage. Based on this information, the total number of people who would be interested in buying a cheap computer is 767, which is about 25.5 % of the households. Considering the total number of co-ops, which is approximately 1000, and the average household size in each building, which is 22.21 units, the estimate is that about 5664 residents would like to buy a low-cost computer.

Goal 1: Wiring co-ops for broadband Internet and providing co-ops with discounted or donated computers

The technology project changed venues and developed over the two years of evaluation. The initial focus was to address the 'digital divide' and to enhance HDFC's residents and building leaders' technological knowledge and accessibility. For this purpose the project focused on getting donated and/or discounted computers and affordable Internet service programs to offer HDFCs.

UHAB reached out the HDFC community with a package of a collective broad-band Internet connection and computers. The broadband Internet package included a one-time setup fee (around \$3700, depending on the size of the building,) and a month fee around \$11 per apartment. UHAB also provided an opportunity for the HDFC residents to buy refurbished computers for \$400. One HDFC building was fully wired by UHAB at much lower cost than the package to serve as a model to encourage other HDFC building to be wired. However, several factors hindered this plan and made it apparent that attempting to wire the entire building is not effective in the HDFCs community. These factors were listed as follows:

1. Discounted package is still not affordable

A focus group conducted with HDFC residents after the wiring package was offered to them suggested that the package was still too expensive for the cooperatives to invest in. It is also difficult to persuade all residents to participate since different people have different Internet needs. For some people, especially building leaders, fast-speed Internet access was necessary and they would invest on it without hesitation; for others, they were quite satisfied with the dial-up they had at the time, and felt reluctant to spend more money; and there were also some people who were not even know how to use a computer, or did not feel the urge to buy a computer and/or to get Internet access. These different needs made it difficult for a co-op to consider buying a package for the whole building. For the time being, Internet access is not like boilers or laundry machines that everyone needs for everyday life and can be shared in the cooperative way. Even for those who were already paying for the Internet, they were suspicious about sharing the broadband with other residents in the building for fear that the speed would slow down. Other concerns included unexpected future costs, including upgrades of required hardware and software, and the confidentiality in this type of collective connection.

2. Some residents may have difficulty in gaining computer knowledge

Both the focus group with potential wired building residents and with the fully wired residents suggested a difficulty for some residents, especially the elderly, to commit to participate in classes on basic computer operation skills. This difficulty is associated or results in their lack of interest in gaining a computer and Internet access.

3. Technical support is needed constantly

Even in the fully wired building, the residents did not experience the convenience of computers and Internet too much because of the lack of technical support. The focus group and interviews suggested that a complicated system of technical support is needed along with the Internet access. For the time being UHAB did not have enough resources to cover the support part, and the residents did not yet expected to invest the money and efforts for this part.

As a result, it was decided to mobilize resources and to focus on technologically advancing buildings' leaders rather than all residents. This shift, which will be covered in the following goals, appeared to be both accomplishable and more in accord with UHAB's broader mission of helping HDFCs to manage themselves in a sustainable way.

Goal II: Creating an accessible website for co-ops which provides online access to a range of services, resource directories, and training materials

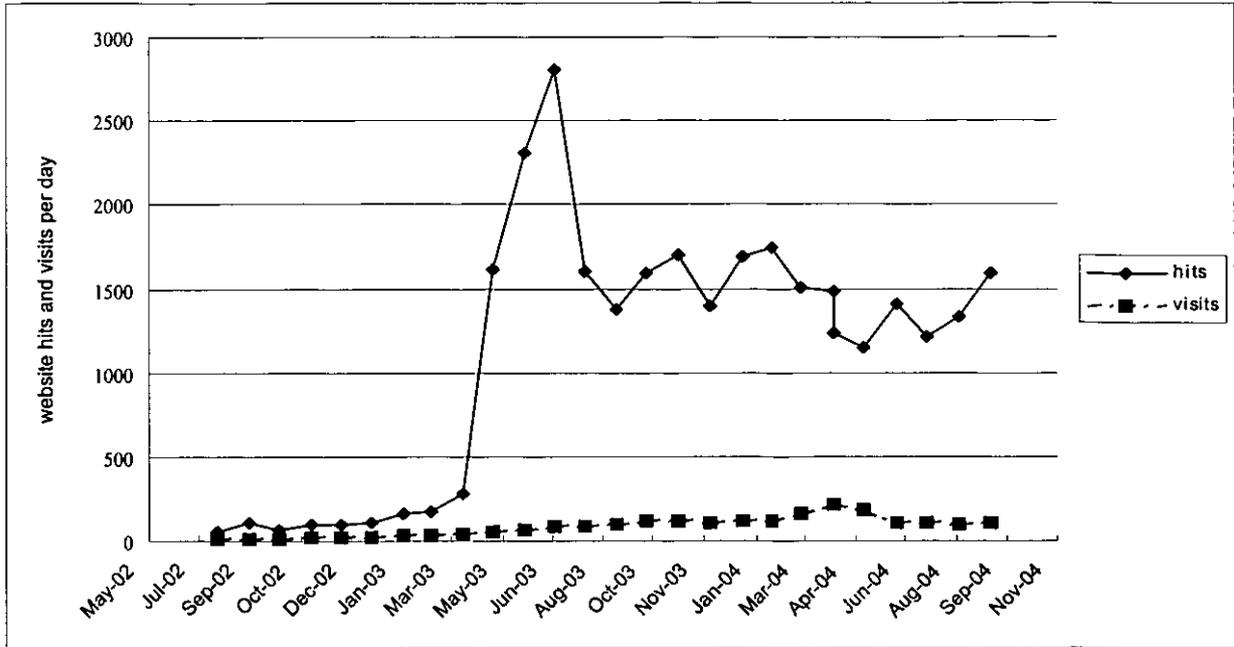
UHAB invested in establishing a website to serve as a rich information resource for the Internet connected coops. In July 2002, UHAB launched the [uhab.coop](http://www.uhab.coop) website in response to a growing need in electronic resources for building leaders. Since the initial launch, UHAB has added many functions to this website. The website was designed to address many of the support and service issues that building leaders are dependent upon for managing the coop. Since the baseline study of 2002 concluded that the majority of HDFCs' building officers had Internet access from home, having electronic resources will be time- and cost- effective.

Some of the innovative resources provided on the website are:

1. Manuals for coop management and to various government forms
2. Links to other service providers (such as ConEdison online)
3. A search engine to find various contractors in the five boroughs with recommendations/ comments from previous HDFC users.
4. Posting and Finding available units in HDFCs

There has been a significant increase in the use of the UHAB website, based on information in the tracking database: <http://www.uhab.coop/stats>. Chart 3 shows increases both in hits (successful hits) and visits (number of times a visitor came to the site from July 2002 to April 2004) to the site. This steady increase in daily visits suggests that more people who need this type of information discover the site. As for the peak between May and August of 2003, a possible explanation is that was a time UHAB added more functions and databases; but because the interface is not user-friendly enough, people had to browse for a while to find their target which increased hits and visits.

Chart 3: hits and visits in UHAB.COOP website



The improving quality of the website service is demonstrated in Chart 4 by the decrease of failure hits over time. The chart showed that at the beginning of launching the website, the percentage of failed hits is high and unstable, and improved a lot and keeps at around 5% level. However, the fluctuation of failed hits in recent months reflected that UHAB should be aware of the website stability.

Chart 4: Failed hits percentage

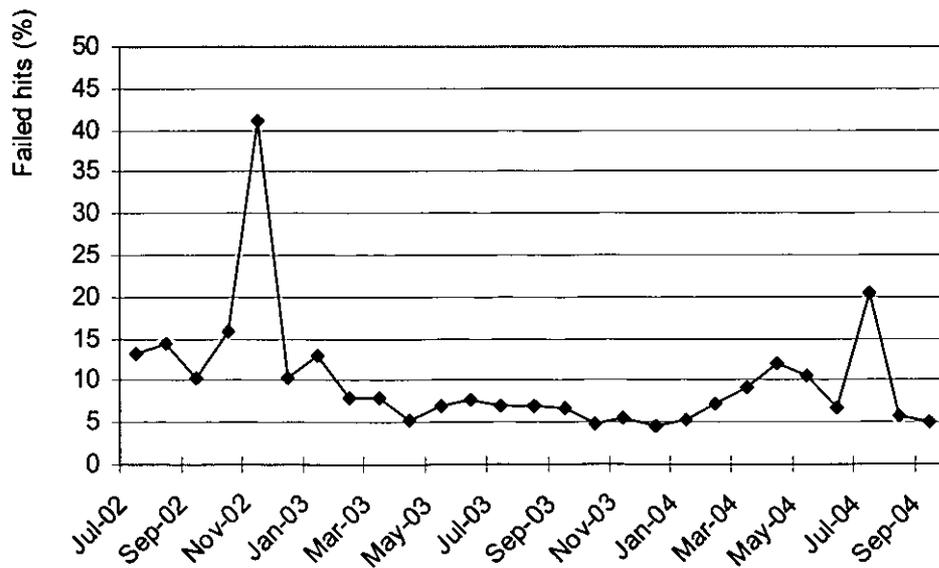
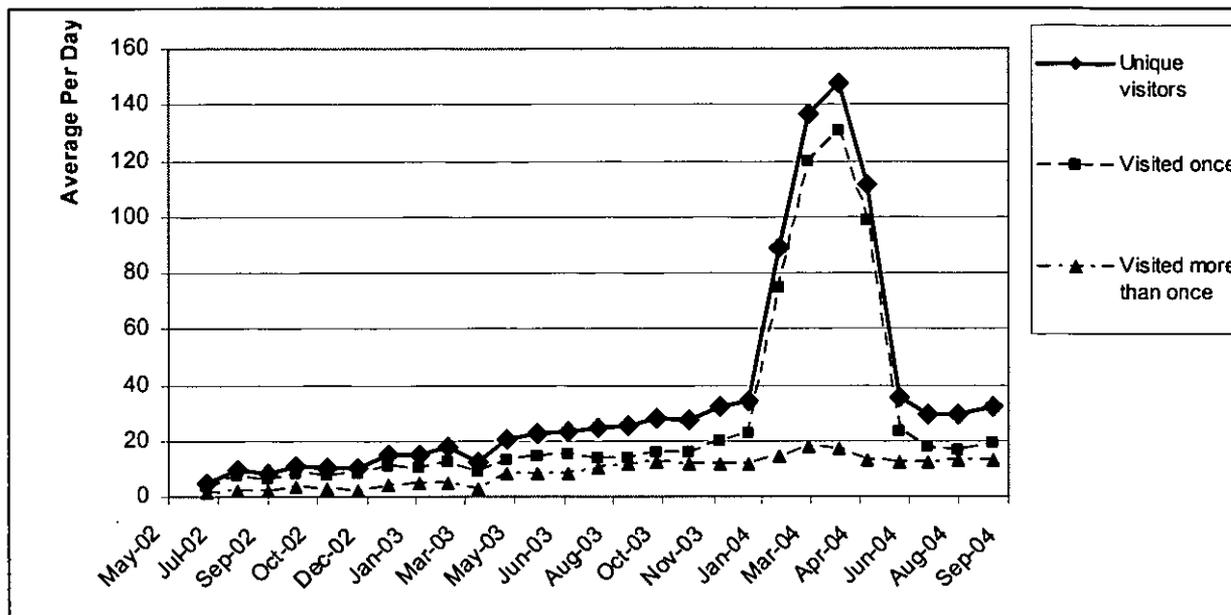


Chart 5 presents the general increase in use of the UHAB website in the twenty-two months since it was launched. The chart suggests that not only have more and more people become aware of the site and used it for the first time, visitors have also found the site useful and have increasingly visited it again.

Chart 5: website visits



The functions of UHAB website has been more and more powerful. Over the two years of developing, the online users have been able to access more UHAB's resources, downloading related publications and manuals. This improvement is shown on Chart 6. The increase in visits to the 'library' page, 'resource search' page suggests that the need for such services exists and that residents and/or building officers find them increasingly useful.

Chart 6: Visits of Selected WebPages

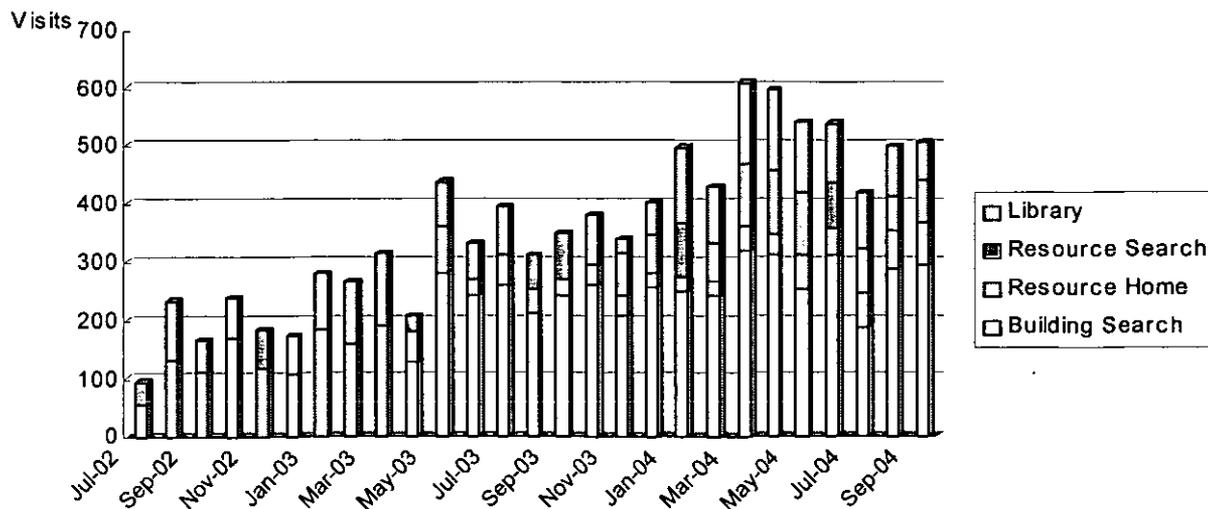


Chart 6 also indicated some milestones for UHAB.coop website. The comprehensive “building search” function was launched in May of 2003. This database allows UHAB members to search HDFCs building information and contacts. The visits of UHAB library, where users can download reports and manuals, has gained

In summary, the content and the usage analysis of the UHAB.COOP website suggest the successful creation of needed resources that building officers can easily utilize in their daily management assignments. The website is also designed to assist residents of non-HDFC buildings who wish to convert, as well as eligible population that seek affordable housing. For both HDFC and non-HDFC populations, this website provides the only existing comprehensive resource on limited equity cooperative housings. In addition, providing useful and needed information on the website increases UHAB capacity to deliver their service more effectively.

Goal III: Training co-op residents in basic computer use, and developing and providing a computerized bookkeeping service and training program

The need to focus on technologically advancing building leaders rather than all the building residents became apparent from the baseline survey and focus groups with potential and actual fully wired building residents.

The baseline survey suggested:

1. Building officers are more likely to own computers and have access to the Internet.
2. Indirectly, residents are more likely to be able to access computers when the computers are located in the building office.
3. Better book keeping skills and producing budgets regularly improve building's overall management (r=0.16; p=0.064.)
4. Better book keeping skills and producing budgets regularly correlate with building leader' technology use (r=0.137; p=0.091.)
5. Although bookkeeping skills and producing budgets regularly do not directly correlate with some desired outcomes, overall building management does related to:
 - Better communication and coordination among residents (r=0.292; p=0.001)
 - Greater likelihood of enrolling in some education program (r=0.148; p=0.089)
 - Higher levels of civic participation (r=0.216; p=0.008)

Based on these understandings, UHAB concentrated efforts on developing a software for co-ops' bookkeeping, with the idea of easing the work of accounting, and providing a tool that will help building leaders to **control the building budgets in a more sustainable way**. With this program, not only can building officers improve their business and technological skills but they would also be able to achieve self-sufficiency in their building financial management

The project named '*Connected Books*' has two phases:

1. Developing and beta-testing:

First, the development and trial phase in which the software was developed by an outside company, High Caliber, while at the same time UHAB staff worked with a group of seventeen beta-testers of building officers that operated it. The beta-testers provided constant feedback about bugs, problems, and needs for additional features. By the end of the beta-test period (2003 summer) a focus group was conducted in which participants shared their final evaluation about the program advantages and disadvantages. With this input, the program was sent for its final preparation and bugs cleaning. The summary of the beta-testers focus group is listed in table 7:

Table 7: Positives and Negatives of Connected Books during beta-testing

	Positives	Negatives
Responsibility	<ul style="list-style-type: none"> • Like idea of shared responsibility • Simple enough to bring others into the working of the building • Many buildings have 1-3 younger people who can learn the program and serve as back-up bookkeepers 	<ul style="list-style-type: none"> • There are not always enough computer-literate shareholders to share the responsibility.

<i>Needs</i>	<ul style="list-style-type: none"> • Geared to HDFC needs 	<ul style="list-style-type: none"> • More trouble than QuickBooks
<i>Ways of keeping books</i>	<ul style="list-style-type: none"> • Could be very beneficial to buildings without computerized bookkeeping • May make it easier for just one person to do the books 	<ul style="list-style-type: none"> • Not necessarily worth switching to from other computer programs (i.e. Tenant Pro)
<i>Economic</i>	<ul style="list-style-type: none"> • Less time-consuming than manual books. • Connected Books fee is cheaper than hiring a management company, which it might be able to replace 	<ul style="list-style-type: none"> • Time wasted entering things (i.e. dates) and adding things multiple times. • Extra work keeping 2 sets of books during testing (sometimes three) • Not enough time to figure out new system
<i>Security</i>	<ul style="list-style-type: none"> • Nice that it's on a server, so there's no need for back-ups on individual home computers 	<ul style="list-style-type: none"> • Issue of security when sharing program with other tenants
<i>Other</i>	<ul style="list-style-type: none"> • Benefits larger buildings 	<ul style="list-style-type: none"> • When there are too many problems, testers just abandon the program and shut down the computer, and then forget which were the problems the next time they log on.

The focus group with the beta-testers suggested that the bookkeeping program was very problematic and not easy to use at that phase. Many bugs and the lack of several necessary features made the use of the program impossible. During the test period, all participants kept their old books (either paper-based or computerized books) intact while also working with the program. Despite of the many problems they encountered, the beta testers were unanimously supportive and excited about the potential of the software. **Participants suggested that the framework of this program is not only unique and incomparable to other computerized bookkeeping software but also it is also specifically addressing HDFCs' needs and problems.** After the test period, the beta-test participants were provided with gift computers from UHAB.

Beta-testers also provided a list of needs they would like to have in *Connected Books*. Most of them have gradually developed and incorporated into this program (please refer to Table 8)

Table 8: Needs Addressed during Connected Books beta-testing

Needs	Completed
• Delete mistakes	√
• Backdate items	√
• Handle Section 8 units and enter the Section 8% and the shareholder % maintenance paid	√
• Write off rent discounts (i.e. \$100 for working as building super)	
• Print out everything (credits, debits, trial balance) all at once	
• Show ending arrears	√

• Print rent receipts	
• Security – other shareholders should be able to view the books, but not change anything.	√
• Journal entry/note space	
• Online banking.	
• Way to show tenants financial summaries.	√
• Connected Books annual fee to be priced per unit. I.e. \$575/year is too much for an 8-unit building (especially on top of other internet fees, i.e. \$25/month for AOL). Also, yearly fee could be lower than initial purchase fee.	√
• Auto-fill option.	
• Trial balances	√
• Further budgeting or financial suggestion, especially whether and how much of the increase of the rent or maintenance fee.	√
• More UHAB classes on bookkeeping and how to apply it	
• Extensive UHAB classes if the bookkeeping responsibility is to be shared among other officers	√

2. Training and dissemination:

Beginning in August 2004 once the software was ready to use, outreach to building officers began with an offer to participate in training classes and three month free trial of the program. At this stage the project 'Connected Books' was placed under the responsibility of the operating 'member service' department that provides other services to HDFCs' leaders.

In August 2004, a mock training with UHAB staff examined the finalized software and found it free of bugs and with many improved features. In preparation to provide these and future training session UHAB purchased desktop computers (for Harlem and Brooklyn offices) and wireless laptop computers (for the main office).

To recruit participants for the initial training and free trial, UHAB targeted officers from their email list which assured people with access to the internet and some technological knowledge; participants from the beta-test; and people that voluntarily contact UHAB in regards to the Connected Books ads in UHAB's newsletter. In September and early October 2004, 4 training sessions were conducted in Harlem, Downtown Manhattan, and Brooklyn offices in which 18 officers from 13 buildings participated. 10 buildings signed up for the non-commitment three-month free trial.

In October of 2004, we contacted the beta-testers who came to the 2003 focus group for following up. Apart from one case, all reported that they were informed by UHAB of the free trial and training. Some beta-testers participated in the new training class and signed up for the free trial, and others did not do so due to different concerns. Table 9 summarized their perceived benefits and concerns of this program.

Table 9: Current Benefits and Concerns of Connected Books

Benefits	Concerns/ Disadvantages
● Able to produce budget reports	● Internet security concerns
● Able to share responsibility	● Not affordable for small buildings
● Fill the needs of HDFCs	● Does not feel the need to switch programs (already using Quick Books)
● Easy to use	

Despite of the concerns, all interviewed Beta-testers expressed again their support of the program and belief that using the program with makes the process of bookkeeping easier and better. Even for those who did not sign up for now, they would like to hear updates of this software. Beta-testers also suggested that for the program to gain success, UHAB must improve its ability on technical support and answering questions. They mentioned some problems in replying back to the many problems and questions they encountered during the beta-test period.

UHAB is now using the free trial phase to calculate the cost of supporting and maintaining the software. The *Connected Book* package is initially planned to be as follow:

1. \$125-\$150 one-time installation fee;
2. \$300 to \$500 annual fee, depends on the building size;
3. UHAB staff is available for email and phone customer support during weekday office hours. An online support session can be arranged from 2-4pm, in which UHAB representative will access (with client permission) the books and will be able to work out problems with clients.

In summary, the *Connected Books* has been developed to meet HDFCs' bookkeeping needs, and has won most Co-op officers' approval. Although at the end of the evaluation, *Connect Books* has not entered its marketing phase, it is foreseeable that it will be a successful tool for building management. In the future, we suggest that UHAB should keep close contact with the *Connect Books* clients and get their feedback constantly. Moreover, we also encourage UHAB to contact those who tried *Connect Books* but did not sign up for, in order to understand their concerns and needs.

Goal IV: Enabling HDFCs' leaders to self-maintain the Co-ops' books, with the easy online assistance from UHAB staff.

Connected Books is ready for the official launch at the beginning of year 2005. Even though we are not able to evaluate this goal fully at this moment, it is expected that the software will help HDFC leaders to keep their books better, to have an easier tool to do annual budgeting and to maintain the rent roll. Through constant communication between *Connected Books* users and UHAB staff, UHAB will be able to know HDFC leaders and residents needs on a timely basis. In

this sense, this software is not only a tool to lead more efficient building self-maintenance, but also a powerful digital tool for UHAB to serve the HDFCs better.

IV. Conclusion and Recommendation

Overall evaluation

It was an important step for UHAB to realize the potentials and the needs of related to the digital divide for HDFC leaders and residents, and this project has revealed some important issues. Digital technology can be a powerful tool for UHAB to serve more members in a more efficient way, but the question lies in when and how to use these tools. UHAB has learned that even though computer use is important, the use rate has grown on its own through market mechanisms and supply. Costs of new computers and Internet access have been going down during the past couple of years. Therefore, UHAB can re-focus its resource from providing low-cost computers to providing good and accessible computer tools regarding building management. The change of the scope in this project reflected the fact that not all HDFC residents are in need of gaining a computer and Internet access, at least not at this moment. What is proven to be more crucial is to provide the better tools for the leaders to manage their buildings.

UHAB's website has developed into a useful tool for HDFC and non-HDFC buildings. Its developing database and the library contained much information and have attracted many users. Because of the website, UHAB now can serve a larger population beyond its time, space, and staff limitation. It is expected that when more and more building leaders and residents are using this website, participating in the forum, and sharing their experiences through the website, UHAB will then provide a sustainable virtual space for the HDFC community.

In addition to the improving website, *Connected Books* so far is the most promising tool for HDFC building management. In the baseline survey, it has shown that better book keeping skills and producing budgets regularly improve building's overall management. It is then foreseeable that *Connected Books* will help the co-ops to achieve better maintenance and kin sensitivity of the buildings finance.

Recommendations for future directions

UHAB has sensed the need for information technology in time, and has found its own niche by developing a useful website and a powerful online bookkeeping software to serve HDFC buildings. In the future, we recommend that UHAB:

1. Re-construct the website (www.uhab.coop) towards a more user-friendly interface and layout.
2. Launch and market *Connected Books* and develop a plan for how to support high-volume users.
3. In UHAB's training and consulting sessions, incorporate the website, email consultations, and *Connect Books* as parts of regularly provided classes.