CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Technology has become ubiquitous in the lives of people and the practical applications of science and technology have started touching the life-styles of them.

Many questions rise when we study the impact of technology on life-styles of people and homes, social systems, buyer behavior etc. For a homemaker, the modern household technologies are those devices which are time and energy saving and help to improve the quality of life. Further, in a society where women have to shoulder single-handed the responsibility of domestic work, these gadgets have helped to reduce the drudgery of work but have also helped in household management, reduced the workload and instilled more confidence in homemakers.

Scientists in home management from the very beginning have shown great interest in time and energy cost studies, and recommended some of the work methods, which could reduce the cost of time and energy in the household work. Mostly the research work has been done on the use of the kitchen equipment, cleaning and laundry equipment. Very little research work has been done to find the use of telecommunication equipment, like home personal computers, internet, cell phones and their utility to the homemakers.

There has to be an in-depth study of the reasons for non-adoption of new technologies in household work. Women’s participation in technology development shall be successful since there is no operation where women cannot render themselves useful. In the present investigation an attempt has been made to develop a specific questionnaire to get feedback from the urban working and nonworking women to study the possession, use and impact of modern gadgets on life style. Without a visible improvement among women, no nation and society can really flourish and progress.
The present study entitled, “Impact of modern household technologies on management practices of working and non-working women of Punjab” was undertaken with the following specific objectives:

1. To study the types of improved household technologies possessed and used by the homemakers;
2. To study the extent of use of these selected technologies by the homemakers;
3. To study the perception of the homemakers regarding the impact of improved technologies on the management practices of the household activities;
4. To study the attitudes of the working and nonworking women towards the possession and use of selected technologies;
5. To study the factors affecting the purchase and use of these technologies; and
6. To study the problems faced by the homemakers for buying and using the selected technologies.

Methodology

To accomplish the formulated objectives of the study, a systematic methodology was adopted. The locale of the study was the state of Punjab and Union territory of Chandigarh. The sample of the study was based on multi stage stratified random sampling technique. As the present study was focused on modern household technologies, it was taken by the experts that the modern household technologies are significantly related with the literacy rate. Thus, this point was kept in mind while selecting the cities of the study. There were nine district cities plus Chandigarh city came under the high literacy rate group. Out of these, three cities were selected randomly for the study namely, Chandigarh, Jalandhar and Ludhiana. Three localities were randomly selected from each selected city for the study.

A list of all the households along with the possession of modern household technologies and occupation of the decision-making women was prepared for each selected locality. Those households were excluded from the lists which possessed less than 50 per cent of the household technologies included in the schedule. The remaining households were then grouped into working and non-working on the basis
of the occupation of the decision-making women of the family. Working women were further categorized according to the nature of their profession/occupation such as, teachers, other employees, self-employed and businesswomen. From this, the category of teachers was finally selected for the study.

From the lists of working and non-working women in each selected locality, 75 working and an equal number of non-working women were randomly selected for the study, totaling 225 working and 225 non-working women in all.

The improved household technologies for the study were selected from the following categories: - (I) Kitchen related technologies, (2) Non-kitchen related technologies. In this group the following technologies were included: (i) Washing, ironing and cleaning technologies, (ii) Recreational technologies, (iii) Information and communication technologies and (iv) Comfort technologies.

Data were obtained through personal interview method from the respondents on a specially structured pre-tested questionnaire.

In order to arrive at the logical results, simple tools such as frequencies, percentages, average etc. as well as advanced statistical tools such as student’s t-test, Z-test, coefficient of correlation, etc. were applied.

Salient findings and conclusions of the study:

It was found that the average age of working homemakers was 38.5 years and of nonworking homemakers was 39.6 years. Most of the working respondents (84.44%) were postgraduates, while majority of nonworking respondents (52.44 %) were graduates. It can be seen that service was the main occupation for the majority of the working homemakers’ husbands (51.11%), while it was business for the majority of the nonworking homemakers’ husbands (52.89%). Most of the respondents i.e. 60.44 percent of working and 66.22 percent of non-working women belonged to nuclear families. The average family size of the working homemakers was of 4.36 and that of nonworking homemakers was 5.12. The average monthly family income of working homemakers was Rs. 31,309 and that of nonworking homemakers it was Rs. 28,360. In case of 45.33 percent of working
homemakers, decision making was done collectively by the husband and the wife while the same was 40.89 percent in case of nonworking homemakers. The majority of the working and nonworking homemakers bought the new equipments on cash. As compared to the nonworking homemakers the greater percentage of the working homemakers bought the new equipments on loan, may be because they are financially independent and can easily pay back the loan.

**Possession of Household Technologies**

The study highlights that out of 39 household technologies, majority i.e. 23 technologies witnessed the similar extent of possession by working and non-working women while there were 16 such technologies where the extent of possession differed significantly between working and non-working women. These technologies included patty maker, electric kettle, electric chapatti maker, poori presser, electric egg beater, chopper, ice cream maker, oven toaster and griller, dish washer, vacuum cleaner, VCR/CD/DVD player, music systems, PC with Internet connection, inverter, room heater and heat convector. Moreover there were 24 household technologies which were found to be possessed by more than half of the respondents belonging to both the categories while the possession of other 15 was found to be low because of their incompatibility with the Indian lifestyle, high capital and operational cost.

**Frequency of use of household technologies**

The frequency of use of different household technologies by working as well as non-working women was found to be quite high except in case of coffee maker, electric chapatti maker, poori presser, electric tandoor, ice-cream maker and vacuum cleaner because these technologies require lot of time to handle and operate and moreover, most of these had seasonal use like coffee maker and electric tandoor.
The average time of daily use of different kitchen-related technologies by working women ranged between as low as 5.78 minutes per day in case of electric egg beater to as high as 173.78 minutes per day in case of cooking range followed by dish washer (106.67 minutes). The lowest use of different kitchen-related technologies by non-working women was to the tune of 6.15 minutes per day in case of electric egg beater, while the highest use was of the order of 174.07 minutes per day in case of cooking range followed by dish washer (88.89 minutes).

Personal computer with Internet was used for a sufficient time by both the categories of respondents i.e. 69.73 minutes by working and 76.78 minutes per day by non-working women but the use of mobile phone was quite low. This was 16.47 minutes per day by working women and only 13.46 minutes per day by non-working women.

Comfort technologies like cooler and air conditioner were used for glaringly high time. The higher use of comfort technologies by non-working women may be attributed to their longer presence at home than the working women.

Reasons for use of modern household technologies

As regards the reasons for use of kitchen related technologies, easy operation emerged as the most common reason for use of different kitchen related technologies. This reason was followed by saving of time and energy, safety in use and better output, low running cost, multi-functionality and better output. Therefore, it can be concluded that modern kitchen related technologies help in increasing efficiency of women in terms of both physical as well as psychological. It leads to better diet services due to preservation of nutrients, little noise etc. Thus, modern kitchen technologies proved to be the best ally of women.
Recreational technologies were used mainly as a source of entertainment and time pass. Importance of TV/cable connection as an educational media could also be observed.

The information about reasons for use of information and communication technologies by the women indicates that vast majority of the women i.e. 88.37 and 86.67 percent of working and non-working women respectively used personal computer with internet as a source of information followed by academic purpose as reported by 75.19 percent of working and 63.33 percent of non-working women and source of entertainment (59.69% working and 44.44% non-working). Convenient and cheapest mode of fast communication were the reasons for use of PC with internet reported by 58.91 percent of working and 38.89 percent of non-working women. It is worth-mentioning here that 19.38 percent of working and 17.78 percent of non-working women also used this technology for online shopping.

The mobile phone was used by as high as 97.74 and 87.91 percent of working and non-working women respectively as an easy source of communication followed by comprehensive connectivity (74.47% working, 74.71% non-working) and convenient and cheapest mode of fast communication (74.47% working, 73.63% non-working).

The comfort technologies were used for different reasons such as source of comfortable rest and sleep, leisure time desire, efficiency in work, lesser noise, air circulation, uninterrupted power supply and warmth etc.

The use of air conditioner was quite high due to lesser noise. Almost all the respondents used inverter mainly for uninterrupted power supply. The second reason for use of inverter came to be the lesser noise. Generator was used for a sole reason of uninterrupted power supply.
Reasons for less use of modern household technologies

The study revealed that electric chapatti maker, electric kettle, coffee maker, poori presser, electric trandoor were the major kitchen related technologies which were reported to be used less due to difficulty in assembling parts, inconvenient to use, not saving much time and energy, space consuming, availability of domestic help and high operational cost. Among non-kitchen related technologies, vacuum cleaner was considerably used less due to availability of domestic help, difficulty in assembling part, very cumbersome process, space consuming and not saving much time and energy. TV with cable connection was used less due to adverse effect on children’s vision and their exposure to indecency. Room heater and heat convector were used less due to their high electricity consumption. It highlights the need to evolve simplified, more efficient, low costing and short-sized household technologies to make their better and adequate use by the women so that they can save time and energy in day-to-day household jobs and involve themselves into other productive jobs.

Perceived impact of modern household technologies on the management practices

The impact of modern household technologies on management practices was observed in terms of extent of agreement of respondents on different impact statement. There were 39 impact statements. Out of these, 26 statements were positive while 13 statements were negative to assess the impact of these technologies.

Among positive statements, the highest agreement of working women of the order of 0.88 (88.00 %) was found in favour of improvement brought by the use of these technologies in the standard of living, followed by 0.84 (84%) for enabling the respondents to finish their work in much shorter time, 0.83 (83%) for enjoyment of home life as well as job by using these technologies and 0.80 (80%) on the helpful technologies to keep the house clean. The
lowest agreement by working women among positive impact statement was found to be only 0.08 (8%) in favor of opportunity to start a small enterprise to supplement the family income, followed by 0.30 (30%) on getting sufficient time for proper exercise, 0.35 (35%) on getting free from tension and unnecessary anxiety and 0.47 (47%) in favor of having more leisure time by using the modern household technologies.

As far as the extent of agreement for non-working women on the positive impact of use of household technologies is concerned, it ranged between as high as 0.84 (84%) on enabling the respondents to finish their work in much shorter time to as low as 0.09 (9%) taking the use of technologies as an opportunity to start a small enterprise to supplement the family income.

There were found significant differences in the level of agreement on different positive impact statements by working and non-working women. These impacts included having more leisure time, helping in undertaking different household chores simultaneously, achieving higher level of efficiency, work becoming interesting, less fatigue and stress, less dependency on domestic help, compensation of expenses, better care of family members, helping children in their academic pursuits, helpful in cleanliness of house, enabling to enjoy the home life as well as job, maintaining better health and getting free time for personal grooming. The perception of positive impact of using modern household technologies in terms of enabling to undertake different chores simultaneously, higher level of efficiency, interesting to work on, less fatigue and stress, less dependency on domestic help, compensation of expenses, better care of family members, getting time to help children for their academic pursuits, helpful in cleaning the house, enjoying both family life as well as job, maintaining better health and getting free time for personal grooming was significantly higher by working women as compared to the non-
working women while the positive impact in terms of giving more leisure time was perceived significantly at higher level by non-working women.

The analysis further revealed that the negative impact of using household technologies as perceived by the working women was found to be glaringly disagreeing on the undue pressure on mind while handling the equipment (-0.25), while highest negative impact of using household technologies was noted to be the adverse effect of indecency in TV programme and advertisements on mental health of children (0.77), followed by enormous increase in the power bill (0.65), big strain of ever-increasing multiplicity of gadgets on limited financial resources (0.60) and costly equipments (0.55). The lowest level of negative impact as perceived by working women was found to be in terms of big problem of maintaining equipments (0.16), followed by lack of space (0.24) and reduction in nutritive value of food (0.32).

Among non-working women, the extent of negative impact of using modern household technologies ranged between zero in terms of undue pressure on mind while handling the equipment to 0.66 as adverse effect of TVs on children. The second major negative impact perceived by non-working women came to be the drastic reduction in physical activities (0.58). The perception of negative impact of using modern household technologies by working and non-working women differed significantly. The negative impact in terms of enormous increase in electricity bill, adverse effect of TV on children and big strain of ever-increasing multiplicity of gadgets on limited financial resources was perceived at a higher level by working women as compared to the non-working women while the negative impact of using modern household technologies in terms of drastic reduction in physical activity, many gadgets and lack of space was perceived at a significantly higher level by non-working women as compared to the working women.
Relationship of perceived impact with socio-economic characteristics

The relationship between the perceived impact of modern household technologies on management practices with the socio-economic characteristics of the respondents showed that family size adversely affected (-0.153**) positive impact of enabling the respondents to finish work in much shorter time among non-working women. Positive impact of having more leisure time was positively affected in joint type (0.134**) and large size of families (0.146**) among working women because there might be a considerable number of family members working on the household technologies. In joint type of families both working (0.118*) and non-working women (0.115*) got sufficient time for relaxation and personal grooming by using the modern technologies. The older age working women (0.123*) and joint families non-working women (0.123*) could get rest and sleep during the day time by making use of modern household technologies. Non-working women belonging to larger size of families (0.144**) saved much labour and energy while the working women with higher education (0.119*) noted reduction in tiresome labour by using modern technologies. The non-working women belonging to joint (0.186***) and larger sized families (0.152**) felt much less fatigue and stress due to use of modern household technologies while the working women belonging to the joint families (0.133**) could not utilize properly the technologies for keeping their house clean. Similarly the working women belonging to the large sized families (0.135**) could not receive a pollution free environment. Adverse effect of larger family size among working women (-0.142**), higher level of income among non-working women (-0.140**) and higher educational level among non-working women (-0.121*) could be seen on the improvement in the standard of living.

Higher level of income caused increase in pressure on mind while handling the equipments by working women (0.133**). Higher level of education among non-working women felt low level of adverse effects of
indecency in TV programme on children (−0.127*). But higher was the level of education; higher was the fear of accidents among working women (0.120*). Similar relationship was found among non-working women belonging to larger family size (0.116*).

Problem of lack of space for equipments was increased with the increase in income among working women (0.132**) while with the increasing age (0.334***) and increasing income (0.154**) lead to increased strain on limited financial resources for the ever increasing multiplicity of gadgets among working women.

Therefore, the perception of impact of using modern technologies depends largely on socio-economic characteristics of the respondents. Thus, perception cannot be conceived independent of the objective conditions.

**Attitudes of respondents towards possession and use of modern household technologies**

The women belonging to the working and non-working categories expressed different attitudes regarding usefulness of various modern household technologies. The working women expressed that among kitchen technologies mixer and grinder (1.89), stick blender (1.44), toaster (1.52), electric juicer (1.74), microwave (1.61), refrigerator (2.00), water purifier (1.74) and geyser (1.94) were very useful while food processor (1.30), patty maker (1.16), poori presser (0.76), rice cooker (1.10), electric egg beater (0.79), chopper (1.31), food warmer (0.89), oven toaster and griller (1.28), cooking range (1.00), electric chimney (0.99) were useful upto some considerable extent but electric kettle (0.66), coffee maker (0.50), electric chapatti maker (0.32), electric tandoor (0.66), ice-cream maker (0.46) and dish washer (0.59) were of the least use.

The non-working women were of the opinion that among kitchen related technologies, food processor (1.42), mixer and grinder (1.88), toaster
(1.41), electric juicer (1.56), chopper (1.39), microwave (1.55), refrigerator (2.00), water purifier (1.68) and geyser (1.19) were highly useful while stick blender (1.25), patties maker (0.69), electric tandoor (0.68), rice cooker (1.02), food warmer (0.84), oven toaster and griller (1.05), cooking range (1.04), dish washer (0.69) and electric chimney were useful to a considerable extent but electric kettle (0.55), coffee maker (0.48), electric chapatti maker (0.38), poori pressor (0.66), electric egg beater (0.56) and ice-cream maker (0.44) were with the least usefulness. The extent of usefulness of some kitchen related technologies of working and non-working women differed significantly. These technologies include stick blender, toaster, patty maker, electric eggbeater and oven toaster and griller whose usefulness was viewed significantly higher for working as compared to the non-working women.

Among the non-kitchen related technologies, the highest usefulness score by working women was secured in the order of 1.96 for washing machine followed by 1.95 for exhaust fan, 1.92 for electric iron and 1.87 for TV with cable connection while the lowest usefulness score to the tune of 1.06 was secured by heat convector followed by 1.18 for generator, 1.27 for vacuum cleaner and 1.37 for room heater. The non-working women assigned maximum usefulness score in the order of 1.93 to electric iron, 1.92 to washing machine, 1.91 to exhaust fan and 1.90 to TV with cable connection while the lowest usefulness score to the tune of 0.84 was given to heat convector, 1.12 to generator, 1.28 to room heater and 1.33 to VCR/CD/DVD player. The opinion regarding majority of non-kitchen related technologies was the same between working and non-working women while the usefulness of PC with internet, air conditioner and heat convector as viewed by the working women was significantly higher as compared to the non-working women. No non-kitchen related technology was termed as useless. All these were either highly useful or useful to a considerable extent. This may provide a basis to encourage the possession and use of these technologies.
Factors affecting the purchase of new household technologies

As far as the factors affecting the purchase of kitchen related technologies are concerned, the working women assigned the highest ranks to utility followed by requirement of the family, price, safe to use and repurchase offer while the least ranks were given to availability of AMC at nominal cost followed by complete and easy to understand literature, after sales service, demonstration effect and easy availability of spare parts. With minor variation, almost similar pattern of ranking was found in case of non-working women. They also gave first rank to utility followed by availability on installment, requirement of the family, safe to use and price while they gave the least importance to demonstration effect followed by ISI mark, complete and east to understand literature, easy availability of spare parts and warranty.

It was highlighted by the study that utility emerged as the first most important factor responsible for purchasing of the kitchen and non-kitchen related technologies while the least important factor came to be, by and large the availability of AMC at nominal cost. Thus, in general, the best combination of factors for purchase of household technologies came to be the utility, price and requirement of the family.

Problems faced by women for buying and using the household technologies

It was observed from the analysis of data that major problems faced by the respondents in buying household technologies came to be the reluctance of the decision maker of the family, non-availability of space and financial constraints while the major problems in using these technologies were found to be non-availability of electric fixtures at requisite place in using kitchen related technologies, limited suitability of the available gadgets in using recreational technologies and increased pressure of the domestic chores of homemaker in using comfort technologies.
It can be concluded that modern household technologies had improved the standard of living and quality of home management among both the categories of women. There is no doubt that the introduction of these modern household technologies has immensely helped the women folk to save time and energy and increased their work efficiency. Some of the modern household technologies were reported to be of very less use because of being inconvenient to use, difficulty in assembling the parts, space consuming, high capital, operational and maintenance cost etc. Thus, there is a need to evolve improved quality of these technologies which may be easy to handle and low in cost.

Thus, the Indian economy touching the double digit G.D.P. (Gross Domestic Product) growth, it is imperative that the purchasing power of women in particular will grow rapidly, thereby, the usage of the modern household technology would become more broad based. Hence the life styles itself might change.

However, India is having a severe shortage of power which makes it impossible for a rural community to take advantage of these gadgets most of which are powered by electricity. This anomaly is being augmented by using the non-conventional sources of energy viz. solar and wind. The rural cooking and lighting needs are being partially fulfilled by gobar/biogas plants. These being infrastructural projects, the government concerned should improve these alternative sources of energy in rural areas to enable the rural population also to enjoy the benefits of modern household technologies.

Implications of the study

The findings of this research needs to be communicated to the concerned parties viz the equipment manufacturers, the future research students, the target home makers, extension workers and the government to derive the following implications.
1. With more of research, user friendly and cost effective gadgetries are expected for the home makers.

2. More and more awareness among the target group about such new home gadgetries needs to be there.

3. For future research the study may be used as a primary reference.

4. This research may equip the extension workers to formulate an effective information for dissemination.

5. It will enable the government to accord tax sops to those manufacturers who maintain a high quality standards (energy efficient, eco-friendly superior technology and low cost gadgets).

Recommendations for Future Research

On the basis of the findings of the present study and some retrospective thinking, a number of studies can stem from the present one. Some suggestions for the future research are given below—

1. A similar study can be carried out in different states covering large range of respondents in order to compare the findings of the present study and to see the influence of geographical and cultural differences on possession, use and impact of modern household technologies.

2. A comparative study of possession, use and impact of modern household technologies on urban and rural women in the state and perhaps extended to all the parts of the country could also be undertaken.

3. The ambit of socio economic group can be further widened for similar study.

4. With the convergence of communication, entertainment and information technologies enabled by Internet, many innovative household gadgetries are thronging into the market, over which a scope of study is worth exploring.

5. In such a scenario, it is advisable to include these technologies in regular curriculum of students in schools and colleges.