

Why Is Traditional Dough Kneading Still Prevalent in Indian Kitchens? Technology Rejection Causes

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Abstract

Kneading dough is a very common and cultural kitchen practice, carried out in Indian kitchens for ages, forming an important base of the cooked culinary staples in the nation. However, kneading the dough manually as per the conventional method with hands is tiresome and causes musculoskeletal pain. Although the current market provides access to several technological alternatives, it is quite surprising to acknowledge that Indian kitchens are still sticking to the manual process and are not widely accepting these innovations. The traditional process is surprisingly still relevant, and tech innovations are not majorly adopted throughout the nation. It raises a question regarding the available market solutions and strongly indicates the presence of a market gap. Hence, this research study aims to uncover the actual facts and provide a clear identification of the relevant problem. It is followed by two stages of research work—offline and online—for clearly understanding the scenario and circumstances of overall cooking in Indian kitchens to receive a final answer on whether manual dough kneading is a genuine problem or not.

Keywords: Dough Kneading, Technology Adoption, Indian Kitchen

Introduction

India is home to a wide variety of cultures, races, and communities, each practicing a different lifestyle and forming various cuisines. At the same time, Indian kitchens are not merely a space to cook but are a resemblance of heritage and cultural identity. Different regions of the country have a number of dishes and culinary staples cooked and practiced throughout the year. These staples, being a significant part of daily life, influence the way kitchens are organized, built, and used, shaping the overall design and setup. Traditional kitchen setups are designed without a strong focus on human ergonomics. Most of the conventional kitchen activities performed on a daily basis demand recurring movement of upper limbs and arms, prolonged standing, and continuous bending, leading to musculoskeletal pain and overall body fatigue. Therefore, it becomes really necessary to investigate Indian kitchen ergonomics and empathize with the pain faced by the user for a better design.

Among the several different dishes, most of the famous culinary staples are dough-based, e.g., chapattis, puris, parathas, and naans. Ranging from festivals or family gatherings to daily food habits, they have formed a strong base in the Indian diet. This means dough is a fundamental food base, and dough making is a very significant activity in Indian kitchens. Most of the North Indian population depends on dough on a daily basis, making "dough making" a regular activity. The traditional process of dough kneading involves mixing the flour with hands manually until a proper and smooth dough is formed. Manually

mixing the flour and water requires continuous work with fingers and hands, causing repetitive movements of fingers, wrists, and forearms. It demands muscular strength and causes physical strain. Being a primary everyday kitchen activity, the conventional kneading process adds more to the kitchen hassle. This process and its hurdles have been carried out for generations. It has always been a prominent part of Indian kitchen practices, making this job painful yet routine. Thus, in an atmosphere where dough kneading is a primary kitchen activity, it is equally significant to look into ergonomic solutions.

With time, technology has touched every field and has simultaneously entered the Indian kitchen. It has opened new doors and unfolded new innovations, bridging the gap between work and hassle. Today, there are several machines and market alternatives for different kitchen activities that reduce human labor and effort, making kitchen chores quicker and easier. Several solutions have also emerged for kneading dough efficiently, eradicating the manual involvement of hands.

Electronic devices like stand mixers, food processors with different attachments, and a few mechanical (non-electrical) alternatives have come into existence for human ease. These alternatives significantly reduce manual labor, saving time and effort. Surprisingly, such innovative and latest technologies are still not widely adopted by the Indian masses. The continued practice of the conventional process raises questions regarding the market solutions, requiring in-depth study to understand the scenario and empathize with the user's needs. It is relevant that the mere availability of and access to the latest technology is not sufficient for users to switch to new processes or shift from age-old techniques. There are several other parameters that determine whether a technology will get adopted or rejected.

The continued use of a conventional process is often influenced by cultural beliefs, experiences, and satisfaction. The most likely reasons for technology rejection could be the individual economic capacity of a household, lack of awareness, family decision-making roles, space constraints in the kitchen, or discomfort in breaking away from familiar habits to bring change into the habitat. Furthermore, there can be a huge difference between urban and rural users regarding shifting to and adopting the latest innovations. The thought processes, needs, and experiences of both users are different. In this case, although the current market offers several alternatives for painful manual dough kneading, the alternatives remain widely unaccepted. This implies that either manual kneading is not perceived as a significant issue, or there lies a more significant barrier in adopting the changes. Clearly, being a laborious everyday activity makes it tiresome, but the attitude of Indian users indicates an underlying perspective that needs to be researched and thoroughly understood to effectively solve the problem and drive demand for better alternatives.

Methodology

The study follows a research approach consisting of two surveys—one offline and the other online—to get a better idea about what quantity of the Indian masses prefer the traditional process and what percentage decides to shift to newer methods. To resolve the confusion over whether a literal problem exists and whether people are still sticking to conventional modes, a first survey was conducted by physically visiting the homes of urban individuals, looking into their kitchen accessories, and understanding their setups. In this survey, only individuals living in urban areas were targeted. Six homes of different individuals across various age groups and experiences were visited; conversations were held to understand their daily routines and needs, and introspections were made into their kitchen experiences, demands, and comfort. A specific set of questions was asked to delve deeper into their lifestyles and daily routines to finally evaluate their perspective on technology adoption. A similar set of recurring problems

was noticed, a final questionnaire was formulated, and it was decided to proceed to a round two stage of survey and evaluation. The ultimate goal of this survey was to arrive at a clear idea of what users actually face and how they respond to challenges in the kitchen.

Interactions with different age groups were covered in the first survey to understand and highlight the challenges faced by each age group. The second stage involved evaluating the perceived information and forming a final questionnaire for an online survey. This survey was conducted by setting up a Google Forms questionnaire and asking different individuals to fill it out. The individual responses then marked the next stage of the evaluation.

Result

After conducting the two stages of surveys (both physical and online), the final results yield a much clearer understanding of the situation. The first survey was required to gain an initial understanding of the Indian kitchen setup, culture, and preferences, which was subsequently followed by the second stage of the online survey based on the possible questions derived from the first. A collection of recurring problems from all individuals was gathered from the first survey, and a questionnaire was then framed for the Google survey, the results of which are attached in the charts. The primary questions asked in survey two regarded dough kneading: whether they knead flour at their homes or not, and whether they knead with hands or opt for other alternatives. The response from 25 individuals clarifies that the majority still stick to the manual process of kneading. Next, the second chart of questions clarifies the problems or pain associated with dough kneading. It is evident from the second chart that a literal problem exists, which mainly comprises physical pain and exertion of effort. Thus, from both surveys, it is clear that most Indian individuals prefer to stick to the manual kneading process despite the effort required and the problems faced.

Discussion

From the surveys, it is now clear that manual dough kneading is still preferred in most Indian kitchens over switching to or adopting technological alternatives, and people are sticking to conventional ways despite facing pain and hurdles while doing it. This provides a clear indication to look into the existing market solutions and study the kneading process in more detail. The market solutions have not reached a stage of complete adaptation. There can be several reasons for technology rejection in this context. From the first stage of the survey, it was analyzed that a lot of urban people also opt for manual kneading with hands even though their kitchens possess technological solutions for dough kneading, such as food processors. For the individuals who do not have these devices at home, it may be because many Indian mothers do not like to purchase a separate, complex machine just for kneading. Kneading dough is a common and widely adapted practice in Indian kitchens; therefore, purchasing a separate, bulky, and complex machine solely for this purpose is highly unlikely. Since dough kneading is an age-old kitchen activity to which the Indian masses have adapted, breaking the chain of conventional practice to accept a slightly complex alternative might sound unappealing. Simultaneously, many people who already have alternatives in their kitchens still prefer hand kneading due to other reasons like habit, experience, personal satisfaction, and the hassle of cleaning, assembling, and setting up complex machine parts. All of these possible reasons hinder the smooth acceptance of technological market alternatives.

The shift to new technology must be easy and should not bring extra problems that did not exist in the previous traditional process. Most of the problems discussed in the first stage of pain point mapping involved cleaning. It is one of the most common kitchen pain points. Although electronic devices might

work to quickly and easily complete a task that would otherwise require more human effort and time, a possible limitation could be the extra cleaning demand, which works against the device getting accepted by the people. Cleaning can be considered one of the utmost kitchen irritations, and new tech solutions might not focus on the cleaning aspect well enough. Additionally, because dough kneading is so common, purchasing a separate complex electronic machine can be space-consuming, uneconomical, and useless to most of the masses. Solutions like food processors, which are an all-in-one solution for different kitchen chores, have many attachments and complex setup processes. Most people find managing such attachments and their storage setups to be an added complication. Thus, from all the research and further discussions, it is understood that the unsolved problem in dough kneading definitely exists, and designers must look for better alternatives than the current market solutions.

Conclusion

The overall research and study provide a final conclusion that dough kneading manually is problematic and tiresome, but the Indian masses are still not widely accepting the available market solutions or switching to the latest technologies. This clearly proves that a gap exists in the available solutions, proving that the mere availability of the latest technology does not guarantee its adoption. Technology adoption is influenced by several external parameters, such as financial situations, cultural acceptance, awareness, and the need for solutions that serve as an upgrade without bringing extra complications. The research clearly shows the market gap and the nature of the people who do not widely accept these devices despite facing physical strain.

This demands a deeper study to investigate and understand the user scenario from a broader perspective, perceive the limitations of market solutions more effectively, and generate ideas that solve existing problems without introducing new difficulties. The solution must be smooth and function as a distinctly better version of the existing ones.

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