



## **A Study of challenges faced by restaurants in designing their kitchens and measures undertaken by them to overcome the challenges**

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**Abstract-** Kitchen is the backbone of any restaurant business. A lot of planning, thought process and efforts go in designing these commercial kitchens. A well designed kitchen is a workplace that has the ability to cater to guests' requirements with maximum efficiency and should have the flexibility and adaptability to the changing business needs. This study aimed at studying the challenges faced by restaurants in designing their kitchens and measures undertaken by them to overcome the challenges. In an effort to do so, a sample survey in the form of a questionnaire and interviews was conducted from restaurant owners and senior managers to understand their views on the topic.

The findings of his research states that Limited Budget and Space, lack of expertise and structural limitations are the biggest challenges in restaurant kitchen designing. "Acquiring knowledge and expertise of kitchen designing", "Giving due consideration of structural designing before selection of location" and "Studying the operation of kitchen designing well" are the most effective measures undertaken to overcome the challenges in kitchen designing of restaurants.

**Key Words:** "Restaurants", "Kitchen Designing", "Kitchen Planning", "Challenges"

### **I. INTRODUCTION**

Kitchen is the backbone of any restaurant business. A lot of planning thought process and efforts go in designing these commercial kitchens. A well designed kitchen is a workplace that has the ability to cater to guests' requirements with maximum efficiency and should have the flexibility and adaptability to the changing business needs. Thus, kitchen designing becomes a specialized task that needs a special talent involving great logic, updated knowledge and balance of technical and conceptual skills.

An in-depth analysis of the operations of the concerned restaurant is required to customize the kitchen plan to suit the needs of the business. Like any other specialized task, kitchen designing encounters a lot of challenges that needs to be addressed. The challenges can be in the form of Menu, Meal, Material, Money, Machinery and Men. To plan and implement a flawless kitchen design one has to find ways to overcome these challenges and convert them into opportunities.

This study aims at studying the challenges faced by restaurants in designing their kitchens and measures undertaken by them to overcome the challenges.

### **II. LITERATURE REVIEW**

1. Marlene Affeld (June 2016) highlighted importance of kitchen equipments. She suggested that "Kitchen design plans consider vital points such as space requirements, equipment and budget. While designing kitchen, one must prepare the detailed list or menu of all food to be prepared in the kitchen. Followed by this, a detail method of food storage and preparation should also be made."

2. Unilever Food Solutions Company (2016), in their newsletter, talked about importance of menu engineering while designing the restaurant kitchen. It stated that a well-engineered menu is a great aid in driving sales in profitable dishes. While all menus help diners decide what to order, a well-engineered menu can guide diners to pick out the more profitable dishes on offer.
3. ACME, kitchen consultancy company, on their website (September 2015) mentioned about importance of hiring consultant. It is important to hire a reputable and professional company to help in the design and installation of your commercial kitchen. Check out their qualifications and accreditations, take a look at their past commercial kitchen design projects and take a look at their client portfolio. A good consultant will use latest technology (AUTO CAD) for layout of a kitchen. Hiring consultant will help to speed up work and improve productivity of your kitchen.
4. Target catering Equipment Company (September 2013), on their website blog, posted by target admin, has mentioned the relation between kitchen designing and revenue generation. A poorly designed kitchen will lead to disorganization and delays in service. You'll get through fewer covers during service which will ultimately affect the profit margin of your restaurant business. A kitchen should be designed to make service flow smooth and quick, enabling your chefs to keep up with the demands of the covers.
5. Culinary depot services company (2012), on their website blog, explained relations between kitchen designing and menu planning. According to the information provided on their website they mentioned that there are certain parameters for kitchen designing such as –a) Establish the concept and menu of your restaurant and then tailor the design of your kitchen accordingly, b) The type and variety of foods served will dictate the sort of culinary equipment in your kitchen and, subsequently, how you place it.
6. Ram Vital Rao, Hotel & Restaurant consultant, FHRAI magazine (June 2012), stated that the kitchen equipment production processes have vastly improved and new technology, added to cooking process, has helped chefs turn out more healthy and visually appealing dishes. Some hotel brands are literally bringing the kitchen as a part of the restaurant. Kitchens are becoming smaller with the advent of automation and multi-skilled employees, saving on built-up spaces. Similarly, the basic Processes of meat, fish and vegetable production are being outsourced so again employee manning levels are lesser. Therefore, space is saved from the construction point of view and also from the operations Overheads.
7. Imtiaz Mistry, Hotel & Restaurant consultant, FHRAI magazine (June 2012), stated that Kitchens have to be designed with HACCP guidelines. Increasing importance is being given to the MEP services installed in kitchens, such as plumbing & drainage, electrical, lighting and exhaust systems. Labour saving kitchen devices and appliances, once a luxury, are a necessity today. A lot of custom fabricated equipment will be made for hotels and restaurant Induction cooking is making its inroads everywhere.
8. Mohini Sethi and Surjeet Malhan in their book “catering management (2011)”, mentioned different important points on kitchen space, storage space and equipment management. They stated that in the process of designing kitchens, it is vital to make provision for fire-fighting equipment at convenient points with reference to work areas such as cooking areas. Kitchen designing is based on location of your kitchen, structural details, layout, storage space and general maintenance.

9. Larr Simpson in her book (2009), Commercial Kitchen Hood Application Guide, mentioned about the importance of properly designed kitchen. In her article she stated that Excess heat and humidity, as well as deposits of grease particles on cooking and food preparation surfaces, can lead to the development of food-borne pathogens or allergens. Prolonged exposure to smoke can result in breathing-related disorders such as chronic obstructive pulmonary disease (COPD)
10. Ronald lee in his book “The everything guide to starting & running restaurant 2005”, stated that - the amount of space you need for your kitchen depends on three factors – size of equipment, the amount of work space needed to perform tasks and the kinds of food you will be storing. There is no single formula that tells you what percentage of your total space your kitchen should occupy. Some restaurant experts believe that your kitchen should be no less than 30% of your total space, excluding store rooms, lockers rooms and other back of the house facilities. However your menu ultimately dictates the needs of your kitchen and the amount of space required to accomplish the various tasks.

### III. OBJECTIVES OF THE STUDY

1. To analyze the challenge faced by restaurants during kitchen designing.
2. To identify the measures taken by restaurant entrepreneurs to overcome the challenges.
3. To study the impact of the measures taken on overcoming the challenges.

### IV. LIMITATIONS OF THE STUDY

1. This study is purely based on the information given by the owners and senior managers of sample restaurants.
2. The study is conducted in the current scenario and the opinions, perception and expectations of the respondents may differ with time.
3. The study does not differentiate respondents on basis of their demographic factors which may have an influence of their perception thereby identifying scope for further research.

### V. RESEARCH METHODOLOGY

The data required for the research was collected using the following techniques:

- **Personal Interviews:** The researcher conducted personal interviews with owners and managers of reputed restaurants to get an insight on the problem under study.
- **Questionnaire:** A questionnaire bearing straight forward and relevant questions was drafted and handed over to the sample to obtain their responses.

### VI. DISCUSSIONS ,FINDINGS & CONCLUSIONS

#### 6.1. Discussions

##### 6.1.1. Challenges faced during kitchen designing of standalone restaurants:

6.1.1.1. **Limited budget:** The first and foremost challenges while designing kitchen is limited fund. The kitchen designing budget must be managed smartly so that you can maximize its utility and productivity. Many time because of market fluctuation the prices changes and your estimated expenses and actual expenses varies. This may directly effect on your purchase of planned requirements of the kitchen. This may sometimes lead to cutting corners or compromising on the plan.

6.1.1.2. **Limited space:** The easy mobility of employees is essential in running a smooth restaurant kitchen, especially during peak service times. An efficient kitchen is built from the ceiling

down to the flooring and must be constantly evaluated for improvements in design and flow as time progresses. The kitchen also needs to be just the right size. A kitchen that's too small and packed with too much equipment will be difficult to work in. Majority of the times, limited restaurant space results in lesser allocation of space for the kitchen makes it congested and uncomfortable to work in.

6.1.1.3. **Lack of expertise:** Smart kitchens only remain smart kitchens when they are managed by smart operators. A poorly planned kitchen results in high payroll, slow production, unhappy kitchen staff, and dissatisfied guests. Kitchen design and layout must be undertaken with due care and expert advice if necessary. Hiring a kitchen consultant will cost you, but same time the work will get done within the time frame and your work load will be reduced.

6.1.1.4. **Availability of equipment and resources:** Equipment's selection and implementation influence the kitchen designing. Lack of proper resources and quality of equipment's can increase your budget and affect planning. Placement of equipment must be done according to you planned operational model.

6.1.1.5. **Lack of time:** Time challenge will be always there in all businesses. To start your business in given time frame is difficult. Good planning and implementation of kitchen designing will help to finish work in time.

6.1.1.6. **Limitations of structural designing:** While designing kitchen, if you do major structural changes in the premises such as windows, drainage system etc. the cost of project will go high. If you are taking over an old restaurant changing the layout will be difficult and costly. Nevertheless, you can work around any limitations and design a layout that compliments your workflow.

6.1.1.7. **Legal implications:** If you are in the process of setting up a restaurant then you need to check the different licenses/NOCs issued from different regulatory bodies in order to comply with the norm. Getting the license for food business is hassle. The owner must plan well in advance to get legal work done before opening of restaurant. It is the responsibility of the owner of the restaurant to meet all the requisites like obtaining licenses and their timely renewal.

6.1.1.8. **Varied operations:** Now a days there is trend to give lot of varieties in menu, ambience (different outlets in one place). This will put pressure on the planning of kitchen, as you have to delivered variety of dishes from one place. Delivery food for different outlets from one place will be always challenging for example, fine dining restaurant menu and lounge menu to be prepared from one kitchen.

6.1.1.9. **Lack of skilled staff:** A good planned and designed kitchen needs support of skilled staff, or else your efforts of well-designed kitchen will be waste. If chef knows the process of prep, cooking, delivery and cleanup, then your kitchen becomes like a well-oiled machine. No matter what shift an employee comes in, he can still deliver the same quality of food all time.

## 6.1.2. Measures undertaken to overcome the kitchen designing challenges

6.1.2.1. **Arrangement of finance to increase budget:** The business plan for a new restaurant should include calculations of the start-up expenditure. This should be inclusive of the operational expenditure for the first couple of months and the money that will be needed to get the restaurant going. The projection of cash flow needs to be precise for the owners to be able to get a hang of the various financial aspects. A well planned & calculated budget will be key success of your restaurant.

6.1.2.2. **Identify space that provide large kitchen area allocation:** A well-designed kitchen will prevent any holdups and interruptions thus provide a good workflow. This will then result to an effective kitchen. The kitchen also needs to be just the right size. The general rule of thumb is to provide five square feet of space for every seat in your restaurant. All these elements contribute to an efficient kitchen. If a kitchen is designed with ergonomics in mind, the employees can work with minimal physical exertion like bending, turning and reaching. This will increase the efficiency of the employees.

6.1.2.3. **Acquire knowledge and expertise of kitchen designing :** From concept through construction to installation of kitchen you need to have knowledge and experience. The owner must have clear vision of step by step plan. You can learn latest software of kitchen layout and designing and implement yourself. There are many experts or consultant whom you can hire.

6.1.2.4. **Make provision of sufficient time available for kitchen designing:** Designing the kitchen yourself will save your money, provided that you acquired proper knowledge of it. While designing kitchen always keep some buffer time for work to finish. It is necessary to plan the kitchen with due care to detail, that every hour spent on planning pays back handsomely.

6.1.2.5. **Give due consideration of structural designing before selection of location:** Select a site location for your restaurant kitchen is crucial. Determine if you will construct a new building or remodel an existing commercial space is necessary. Ideally, receiving, storage, preparation and cooking areas should be on the same floor as the restaurant. In downtowns of large cities, land costs are exorbitant; hence architects and kitchen planners build vertically to fully utilize every square inch of space.

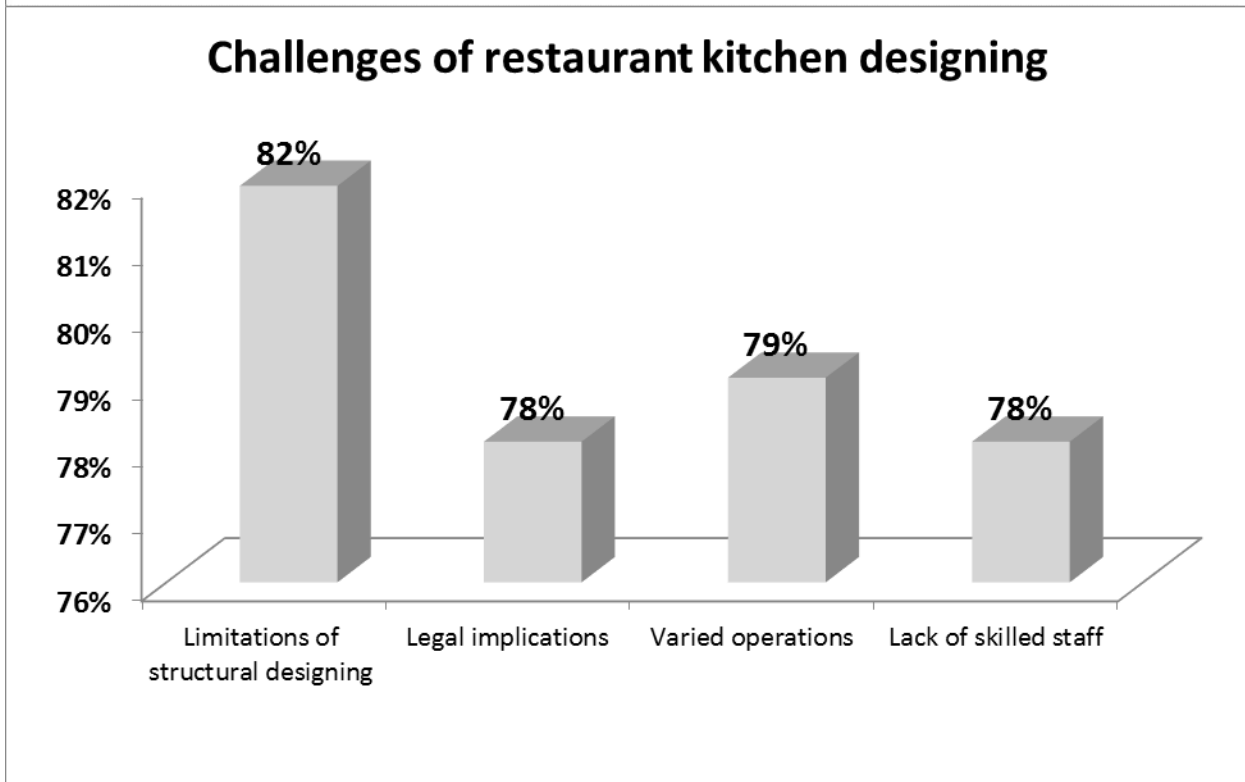
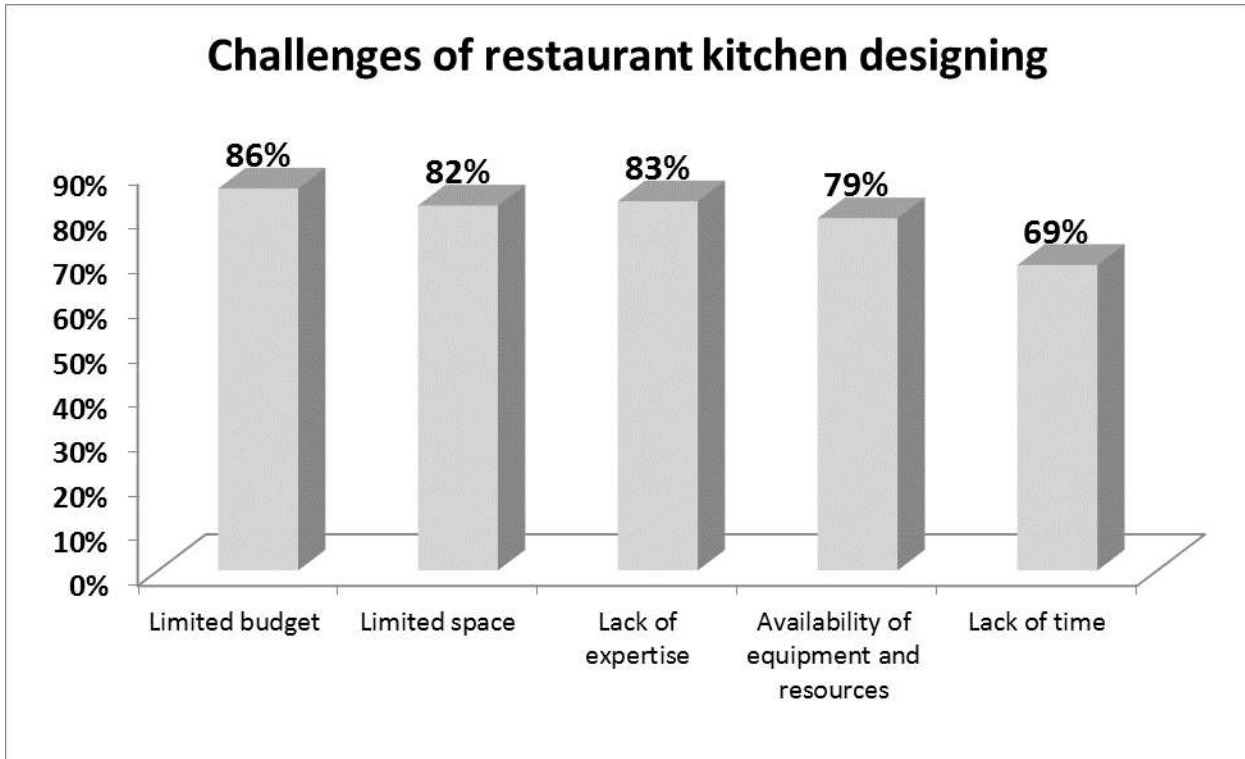
6.1.2.6. **Get complete knowledge of legal implications:** You should do detail study of all licenses and NOC require to start your restaurant. There is no harm to hire an agent to do your legal work, this will save lot of time and you will able to concentrate on your implementation of kitchen plan.

6.1.2.7. **Study the operation of kitchen designing well:** The first step in kitchen planning is a flow chart, which allows eliminating bottlenecks both for service and production. Kitchen designing study will provide you good kitchen work flow, effectively use of space, save energy and avoid cross contamination. Through the right design a business can also maintain hygiene standards. The most qualified people in kitchen planning are experienced and successful chefs. They know from experience the best and most efficient equipment, layout and spacing.

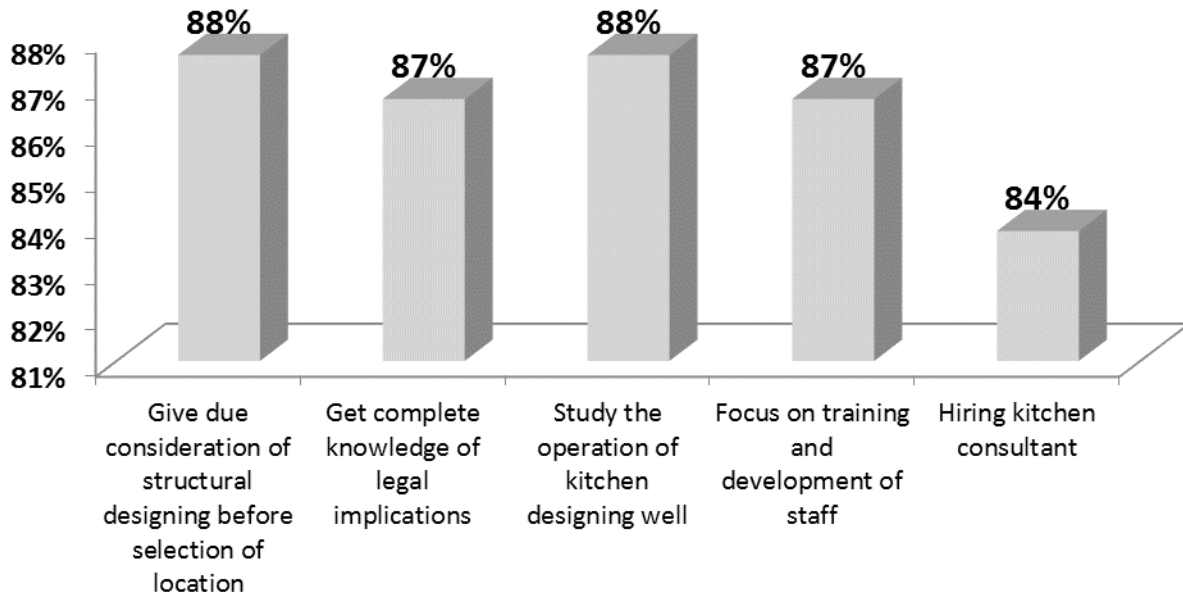
6.1.2.8. **Focus on training and development of staff:** Staff training and development indirectly affect your kitchen designing. Kitchen layout should be in such a way that your staff should enjoy working there. Time to time training must happen to develop the skills of your chef. That will be certainly reflected on the food quality and consistency.

6.1.2.9. **Hiring kitchen consultant:** Study of your kitchen area and implementation according to plan, will speed up your actual work. It's always advisable to hire kitchen consultant, when you are not confident of yourself. Hiring consultant will be piece of mind for new restaurant owner. They work closely with you, design and plan your kitchen according to your requirements and budget.

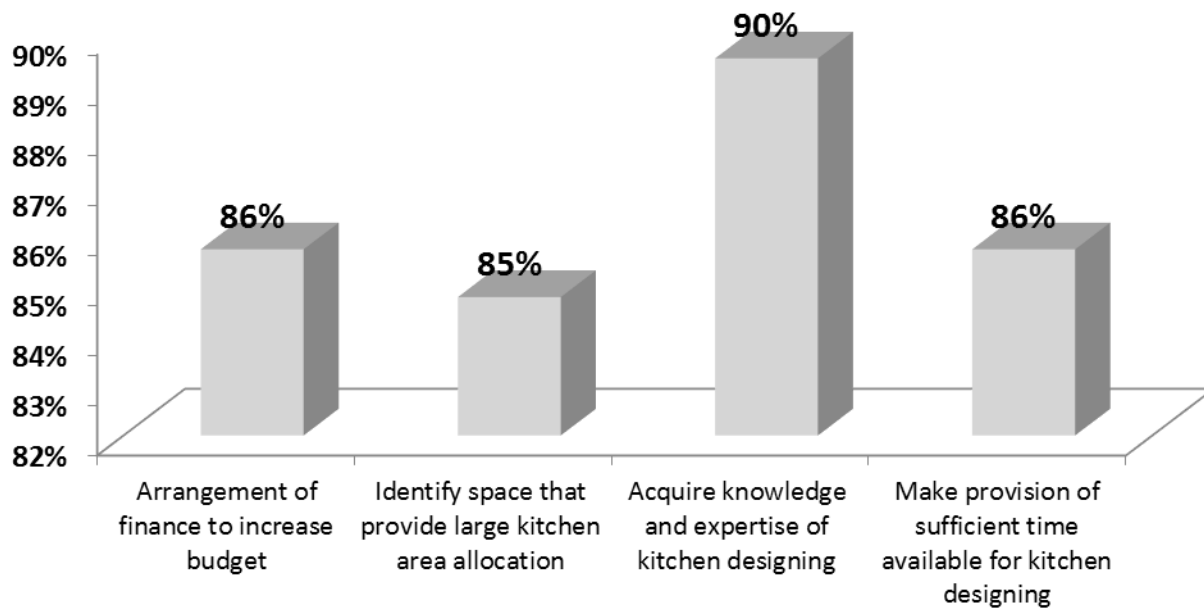
## 6.2. FINDINGS



### Measures under taken for overcoming the challenge of kitchen designing



### Measures under taken for overcoming the challenge of kitchen designing



### 6.3. CONCLUSIONS

The findings of the research can be concluded as under:

1. Limited Budget and Space, lack of expertise and structural limitations are the biggest challenges in restaurant kitchen designing.
2. “Acquiring knowledge and expertise of kitchen designing”, “Giving due consideration of structural designing before selection of location” and “Studying the operation of kitchen designing well” are the most effective measures undertaken to overcome the challenges in kitchen designing of restaurants.

### VII. SUGGESTIONS & RECOMMENDATIONS

Based on the responses received by the owners and senior managers of sample restaurants, on the challenges of kitchen designing and the measures to be undertaken to overcome the challenges, the following suggestions & recommendations can be made:

1. It is strongly recommended to anticipate the workflow of the kitchen operations of the restaurant and create a suitable kitchen design on the basis of the same.
2. The restaurant owners should acquire the required knowledge and expertise to design the kitchen so as to avoid any flaws.
3. The owners should give due consideration of the kitchen space and its limitations before finalizing the location of the restaurant.
4. An adequate budgetary allocation should be made for designing the kitchen. In case of financial constraints, the kitchen design should be implemented in various phases on the basis of the priority. However, these phases should be accurately planned to avoid difficulties and challenges in the future.
5. For a foolproof and compatible kitchen design, restaurant owners should take help of professional external agencies specialized in commercial kitchen designing.

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