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INTRODUCTION OF A SMART DIET MANAGER IN IOT

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ABSTRACT

Excessive consumption leads to 7 trends of crises, including destruction of the atmosphere, energy crisis, social decline and conflicts. Over consumption also deteriorates human health. To reduce excessive consumption not only can improve health, it can also reduce transportation from consumption, livestock raise and sale, and medical care. The reducing over consumption can benefit human health and environmental protection through supply chain management. This motivates us to devise an innovative product. Our imaginative innovative product is a new smart diet manager (DM). After a survey to potential users, it reveals that the new features can help reduce the excessive consumption and deterioration of the human health as well as the destruction of environment. Enterprises can also achieve their social responsibilities through the implementation and popularization of the DM as soon as possible.

Keywords: electronic commerce, IOT, smart, Diet Manager, Consumption, Health

INTRODUCTION

With the development of the e-commerce, especially Apps, there is a big demand in the market of Apps. In the same time, excessive consumption leads to 7 trends of crises, including destruction of the atmosphere, energy crisis, social decline and conflicts [1]. Over consumption also deteriorates human health. To reduce deteriorated health due to excessive consumption, health diet has become a hot topic; more and more people focus on healthy diet habit. In reality, people are easy to purchase things that they do not need because little understanding of their needs. It leads to overconsumption and related health deterioration. Research on how mobility and social connectivity combine to produce new knowledge, business practices, and social implications is likely to become the fourth era of m-commerce in the near future [3]. That is a good opportunity to do a survey of potential users of Apps and devise a new one to satisfy possible need. To have an understanding of the market on the demand of Diet Manager (DM) and its effect on our designed App, this motivated this study. Besides, we want to study if we can be inspired from related IOT smart product-smart watch. We want to study the adherence of users to the Diet Manager App.

LITERATURE REVIEW

Digitization, networking and information are the era characteristics of the 21st century. With the rapid increasing number of mobile users, e-commerce has been in worldwide popularity and development. It provides the world with a good environment of trades and greatly facilitates the communication, save the costs of managements as well as the enterprise costs. Under this background, it would be better for the companies to find some effective ways to meet the needs of market, e.g. E-commerce.

Some studies show that expectations of accuracy, security, network speed, user-friendliness, user involvement and convenience are the most critical quality attributes underlying perceived usefulness. Regression discovered that the willingness to use depended significantly on the first five factors, which allow inter-dependencies and marginal rates of substitution between them to be estimated. Our results concentrate on demand-side changes by explaining the recent slowdown of Internet e-retail banking, which may be useful for development of planning and marketing [4][5].

Nowadays, health problem has become more and more serious. Thus, how to keep fit is also a hot topic in the world. In 1987, John Robbins published a book named "Diet for a New America", which was an early version of food revolution. After that, he continued to work tirelessly to promote conscious food choices for more than 20 years. A suggested diet by DM is always a vegetarian which is consistent with Robbins's book, which can improve health and protect environment.

RESEARCH METHOD

Research Methods

The data of Table 3 of Appendix are from the National Bureau of Statistics of the People's Republic of China. It is about the proportion of the total population of heart disease in the country. Over the past five years, the survey data from city has showed that heart diseases have become the leading cause of death, especially in women. In research, users valued two things most: notification, especially in connection with high mobility; and support for simple activities like tracking [2]. It is expected that people like smart products with notification and tracking for health status, exercise and sleep.

Thus, it motivated us to innovate a new product DM, which can effectively prevent heart disease by the way of getting people's heart rate, heart rhythm, blood pressure, sleep time, and by analyzing them, people can know their physical condition at time.

There are a lot of people who do not have routine physical examination because of certain objective or subjective reasons. The DM can help them better detect their physical condition, and prevent them from suffering diseases in time. So, this is a stylish and healthy product which can prevent heart disease and other diseases.

Questionnaire

Questionnaire is the most widely used method for data collection, which is feasible and effective. It is economical and timesaving. In order to testify the hypothesis effectively, the study will base on the general principles and methods of empirical research, using questionnaires to testify the theoretical construction.

With the questionnaires finished by the masses that were investigated, we can get the latest information. The questionnaire contains many aspects, including the understanding of the app, the acceptable menu of the app, the necessity of giving advice on dietary habits, the reason why they like or do not like the App, as well as the changes of people’s attitudes towards the DM.

RESULTS

Data Collection

The study used the questionnaire to collect data. And sampling is also conducted because of the limited time and energy, under the premise of the research’s objectiveness.

The research is to make an online survey to look into the development prospect of DM. And the people who were investigated are mostly among the young man in Guangdong province of China.

There is no limitation of time for participants so that they will not be nervous or strange, which can ensure the accuracy of the data.

Sample Description

A total of 156 questionnaires were distributed, and 156 questionnaires were gathered. The detailed content can be found in the following tables.

Table1. A formal investigation of the personal information of the sample

Variable	Sort	Frequency	Percent (%)	Cumulative percent (%)
Gender	Male	61	39.1%	39.1%
	Female	95	60.9%	100%
Age	Under 18	5	3.21%	3.21%
	18~25	145	92.95%	96.16%
	26~30	3	1.92%	98.08%
	31~40	1	0.64%	98.72%
	41~50	2	1.28%	100%
	51~60	0	0%	100%
	Above 60	0	0%	100%
	Occupation	Student	138	88.46%
Office worker		13	8.33%	96.79%
Housewife		2	1.28%	98.07%
Private business employer		1	0.64%	98.71%
Free professional		1	0.64%	99.35%
Others		1	0.64%	100%

There are 61 males (39.1% of all) in the sample, and 95 females (60.9% of all). Most of the participants are aged from the age of 18 to25, with a total of 145. The sample participants are mainly students.

There is 87.82% in total of 137 people have known and used App. Respectively, 42.95% do not have a clear understanding about the similar App with DM and 48.08% knows nothing about it. And there are 143 people have not downloaded the similar App with DM before. Mostly know the App like DM from other ways, with the percent of 41.67. The functions in DM such as setting menus, providing purchase list and the recipe all have support. 69.23% of respondents believe that set the recipe according to own physical condition is necessary. Also, 69.87% of respondents think owning DM is necessary and 95.51% have an attitude of acceptance about it. 39.74% , because of health consultation, and 29.49% learn recipes with common sense so that they choose DM. About the reason why do not choose DM, the answers such as unsatisfied with the existing electricity suppliers, cannot be sure that the

mobile electricity sup ,worry about personal information leakage and afraid to spend more all have high number of votes: 22.44%, 44.23%, 58.97% and 50% respectively. There are 118 respondents hold the opinions that arrange recipes or menu according to your physical condition could help improve body function, 83 respondents think that it can help choose difficult patients. But 53.85% said that they would buy material or order according to the recipe providing by DM according to their own mood rather than say 'yes' like 38.46% do. 85.9% of respondents are agreed that their diets to be reused by the restaurants.

CONCLUSION

With the rapid development of e-commerce, App is a hot topic around the world. It covers almost every aspect of human life, such as clothing, exercising, food, and so on. So an App based on users' individual physical condition may be feasible. This article is mainly to discuss the development prospect of DM. The following is the conclusion of the paper.

Firstly, there is a good potential growth for the diet users with available smart phone users. Secondly, there is few available App about diet. Furthermore, most people have no access to similar App before while there is a strong need for recipes. There are about 69% of all the participants have a need of customized recipes in accordance with their own physical conditions, and about 70% of all the participants think that the special customized App are necessary.

Social Implications

Economy, environment and community are three respects for an enterprise's social responsibility. Since the popularization of DM, less food and energy consumption can be achieved with accompanying less environmental destruction, improved community welfare, and the enterprise's social image. Enterprises can also achieve their social responsibility through the implementation and popularization of the DM.

Limitations

This article adopted statistical approach to analyze several aspects of all possibilities of DM. Meanwhile, object is mainly to one than other professional or age groups without more layers and data. People who do not have their own kitchens may be unlikely to adapt DM's suggestions and cook for themselves. Thus, alternative survey done by people of different industries can help reduce the participants' selection bias. Furthermore, poor medical adherence caused by poor memory or mental disorder is not included in this study. Unnecessary consumption can be reduced if this innovative human technology can be implemented and popularized as soon as possible. In this way, it can provide a good atmosphere for human health, less consumption, healthcare and transportation.

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APPENDIX

Table2. About the Diet Manager

Variable	Sort	Frequency	Percent (%)	Cumulative percent (%)
About APP	Know and Used	137	87.82%	87.82%
	Unknown and No Used	19	12.18%	100%
About the similar APP with DM	Know a lot	5	3.21%	3.21%
	Partial understanding	67	42.95%	46.16%
	Heard	9	5.77%	51.93%
	Know nothing	75	48.08%	100%
Downloaded the similar APP with DM	Yes	13	8.33%	8.33%
	No	143	91.67%	100%
	Relatives, friends	33	39.29%	39.29%

How to know the APP(alike DM)	recommend			
	TV, web advertisement	12	14.29%	53.58%
	Experts, doctors introduced	2	2.38%	55.96%
	The pharmacy recommended	1	1.19%	57.15%
	Other ways	35	41.67%	98.82%
	empty	1	1.19%	100%
Which function is often used in DM	Set menu	58	69.05%	69.05%
	Provide purchase list	38	45.24%	114.29%
	Provide the recipe	69	82.14%	196.43%
Set the recipe according to own physical condition	Very necessary	41	26.28%	26.28%
	Necessary	67	42.95%	69.23%
	Not essential	46	29.49%	98.72%
	No need	2	1.28%	100%
Owning DM	Very necessary	29	18.59%	18.59%
	Necessary	80	51.28%	69.87%
	Not essential	42	26.92%	96.79%
	No need	5	3.21%	100%
The attitude towards DM	Acceptable	149	95.51%	95.51%
	Unacceptable	7	4.49%	100%
The reason why to choose DM	Health consultation	62	39.74%	39.74%
	Health monitoring	37	23.72%	63.46%
	Learn recipes with common sense	46	29.49%	92.95%
	Interact with other users	11	7.05%	100%
The reason why do not use DM	Unsatisfied with the existing electricity suppliers	35	22.44%	22.44%
	Cannot be sure that the mobile electricity suppliers to provide the recommended quality of service	69	44.23%	66.67%
	Worry about personal information leakage	92	58.97%	125.64%
	Afraid to spend more	78	50%	175.64%
arrange recipes or menu according to your physical	Improve body function	118	75.64%	75.64%
	Reduce over consumption	37	23.72%	99.36%

	Help choose difficult patients	83	53.21%	152.57%
	More appetite	53	33.97%	186.54%
Buy materials or order according to the recipe providing by DM	Yes	60	38.46%	38.46%
	No	12	7.69%	46.15%
	According to the mood	84	53.85%	100%
Allow your diet to be reused by the restaurant	Yes	49	31.41%	31.41%
	Free	85	54.49%	85.9%
	No	22	14.1%	100%

Table 3.

The number of the Chinese died from heart disease which accounts for the total quantity of dead people

