# INTERNET OF THINGS CONTENTS IN TWITTER; CONTENT ANALYSIS EVALUATION

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**Abstract -** The purpose of this study is *(1*Study and explore keywords of the content in the Internet of Things article on Twitter to come up with the future trend for Internet of Things **.** Currently, there are 2 types of applications *:*Commercial IoT and Industrial IoT*(2.*To provide information and statistics that have been extracted as knowledge or used in reference research for the adoption of technology to further development**.**3 *(*How to store real**-**time Twitter feeds using TwitterAPI technology? Retrieve IoT articles from Twitter, which are analyzed in keyword terms using the Corpus database **.**Keyword Search To analyze data according to defined content analysis criteria **.** And display with probability statistics in the form of tables and graphs**.** The results showed that the term used to refer to the Internet of Things article is more than one term **.** The researcher then used the table to compare the number of statistics for each keyword, so that the most popular search terms were the Internet of Things *:*#IoT, which resulted in the number of user accounts *)*Account and tweet and the number of replies *)*Retweet *(*can also be divided into a variety of articles, and found that the article contains the largest number of words **.** It's an article that discusses Internet of Things, Smart Home, or home comforts **.** Currently, IoTFor Life articles or Smart Home articles are popular and trendy to develop technology to meet the needs**.** Or more convenient to human beings effectively **.** Finally, the benefits of the Internet of Things article on social media, Twitter, are the recognition of the importance of IoT technology, which has been widely recognized since 2016 **.** Development of better ideas and solutions **.** Real**-**time streaming is more interoperable and more reliable**.**

**Index Terms -** Twitter, Internet of Things,IoT, Smart Home

## I. INTRODUCTION

Nowsday, information technologyhas become a part of everyday life .Since information technology has grown rapidly and progressively .Because we have developed technology at all times. Which is good for our daily life. If the information technology has more role.Facilities Comfort also occurs with the human as well.We have started to develop information technology .[7][11] To develop old things more effectively or to create new thing. The technology is being developed to provide more convenience to human beings than ever before.is the Internet of Things, the technology that connects the device to tools such as mobile phones, cars, refrigerators, TVs, industrial tools, agricultural plots, etc., whereby the tools are linked and interacted through the Internet).Veedvil, 2015 (Internet of Things has developed since 2003 It can be said that in 2017 Internet of Things technology is the most powerful than it is.Because it is another technology that facilitates the various aspects of human life, such as in everyday life. The medical industry in agriculture, etc.In many ways, it is also a lot. The Internet of Things technology has also responded to the Thailand 4.0 economic plan as the government wants to focus on smart management, which requires Internet of Things technology to help control the devices. Internet of Things is becoming increasingly necessary.

The researcher then acted analysis system on Twitter about the Internet of Things used in everyday life that were an important technology today.It is a system that analyzes the contents of the article to find out the trends of the Internet of Things article on IoT for Life.It has been found that content analysis has evolved since World War II when American social scientists used content analysis as a technique for analyzing the content of advertising media used in journalism .Especially propaganda, which Americans have paid attention .And later the analysis is more conventional.[6] [9]

The study was conductedto analyze information about the content analysis system.Articles on Twitter about the Internet of Things used in everyday life as mentioned above, to study and explore the IoT research gapand make sure that most IoT-related research. Find out about using Twitter for keyword searches and explore IoT trends in future. [4]

The objective of research

1. To study and explore the use of the Keyword Content article on Internet of Things in Twitter to come up with statistics on future trends in the Internet of Things.
2. To bring information and The statistics that have been extracted into the knowledge or use in reference research for the adoption of technology to further development.

## II. LITERATURE REVIEW

### A. Internet of Things

According to *(*Veedvil, 2015*)* The Internet of Things Is an Internet technology that connects devices and Tools such as mobile phones, cars,

refrigerators, televisions and so on. By the tools. They can connect and communicate with each other through the Internet. In the future, consumers will be more familiar with the technology that makes them. Can control the objects. From home Turn on the lights and let the coffee machine start to boil. There are other technologies. The need to be developed before the IoT is true, such as sensor systems Now, big companies such as Microsoft and Cisco are turning their attention to this technology, and in 2013, the Internet of Things technology will be discussed more and more research will be done. And Developed to make can be used more real.

**B. Content Analysis**

Lawrence W. (2000) study how to concept of content analysis. Content Analysis is a research technique used in many fields, especially in the field of humanities and social sciences such as mass communication. Historically, psychology and the study of evidence have shown that content analysis has evolved since World War II.

When American social scientists use content analysis as a research technique to analyze the content of advertising media used in journalism(Lawrence W. Neuman, 2000). Especially propaganda, which the Americans pay attention. And was analyzed under the topic. Who says what to whom? And what is the result? The content analysis of mass communication is the origin of content analysis. The content is analyzed in various stories. Appearing in publications, newspapers, journals. Later on, content analysis techniques were extended to writing media in the form of essay essays, as well as research papers that were used in other disciplines. Including research in library and information.

**C. Corpus**

Corpusis a computer database that collects publications or conversations in a large number of languages .For the purpose of analyzing the use of practical vocabulary of native speakers .Language data center(corpus).It is important for the research field to be called. Linguistics ( corpus linguistics)to analyze the diversity and change of languages. For the benefit of researchdevelopment of teaching media Teach / Learn language translation produce dictionary (English & other languages of Asia, 2010)

**D. Theories, Principles, and Concepts of Twitter**

ApisitTungkananont(2009) mentions the meaning of Twitter. Twitter.com is a short messaging service. The message that you sent will say "what are you doing? "At that time, to record at that moment what you are doing. Go to the Twitter.com site such as "going to eat", "going out", etc. And when you send short sentences and can do back to read it. All messages. It will be able to dash. Tell what you did during the day. Which is more convenient. Blogging all day “Twitter.com” to replace and help people do not like blogging to use these services a lot more. Now it has changed from saying that. What are you doing (What happened?) .Because each tweet it appears worldwide immediately.It is very useful to immediately report any traffic, earthquake or other emergency situation. But one thing that makes Twitter more useful and fun is to press the follow button. The other person who writes the message to his Twitter is what he is doing or what happens. Twitter is a social networking service. Users can send messages up to 140 characters long, whether they're doing anything or tweeting. Updates to Twitter are displayed on the user's web page. On the site. Another user can use Email, SMS, Messenger, RSS, or by using TwitterificTwhirlechofonseesmic can be the Real-time information exchange.

## III. RESEARCH METHOD

Data Collection and Analysis by Capture data from Keyword on Twitter in Real Time. Because more than one keyword .Researchers need to keep one keyword at a time so that each keyword has an article that discusses IoTFor Life.Compared to the daily, weekly, monthly, three-month, and six-month periods, the most relevant keywords are selected.And to prevent it, but the keyword is not available data or junk data, which is useless information for this research.

Researchers have taken the Twitter API as a feed of articles from Twitter.The researcher has taken the words to analyze the message from the content of the post about IoT on Twitter.Which is analyzed as keyword.Related to IoT using the Corpus Language Store.To analyze the probability statistics .And when it comes to making a graph.By using the Microsoft Excel 2013 application,There will be a satisfaction rating .The article on Twitter on Internet of Things used in everyday life.

## IV.RESULT

Factors in selecting articles are the selection from Keyword.The Internet of Things. It must show the exact article .No data is garbage or not useful.Keyword search is used to analyze the results to get the most accurate.Keyword has come out 10 words as the table compares the following.

**Table.1 Keyword Display about IoTSort by the number of accounts that are searching for the same keyword at time.**

| No. | Keyword | Number of accounts that perform this | Total percentage (100%) |
|---|---|---|---|

| | | keyword search. | |
|---|---|---|---|
| 1 | Internet of Things | 441,052 | 17.30% |
| 2 | #IoT | 416,135 | 16.32% |
| 3 | IoT | 377,343 | 14.80% |
| 4 | #InternetOfEverythings | 340,876 | 13.37% |
| 5 | Internet of everythings | 277,574 | 10.88% |
| 6 | Internet of thing | 234,580 | 9.20% |
| 7 | #IoE | 180,843 | 7.09% |
| 8 | InternetofThings | 125,322 | 4.91% |
| 9 | #InternetOfThing | 110,801 | 4.34% |
| 10 | Internet of Things for life | 45,599 | 1.79% |

**Table2: The IoT Keyword Display chart is ranked according to the number of tweets referring to that Keyword over the same period.**

| No. | Keyword | The number of tweets that mention this keyword. | Total percentage (100%) |
|---|---|---|---|
| 1 | #IoT | 726,989 | 21.10% |
| 2 | IoT | 625,564 | 18.16% |
| 3 | Internet of Things | 544,254 | 15.80% |
| 4 | #InternetOfEverythings | 424,024 | 12.31% |
| 5 | Internet of everythings | 321,853 | 9.34% |
| 6 | Internet of thing | 270,987 | 7.86% |
| 7 | #IoE | 207,734 | 6.03% |
| 8 | InternetofThings | 144,030 | 4.18% |
| 9 | #InternetOfThing | 127,361 | 3.70% |
| 10 | Internet of Things for life | 52,835 | 1.53% |

From the table, when comparing, it is concluded that the keyword that the researcher wants to use as information for this project is #IoT. The number of tweets is 726,989, or 21.10%, and the number of search accounts is 416,135 or 16.32% The researcher will continue to search for this keyword as follows.

**Table3: Keyword display table the information used in this project is 1day and 1month.**

| Keyword | | 1 day | 1 month |
|---|---|---|---|
| #IoT | Reply | 1 | 5 |
| | tweets | 46 | 92 |
| | Retweets | 53 | 106 |

From the data above mentioned that.In more time, there is more information or other content.There may be some useful information about IoT For Life, or it may not be useful.The researcher must check the article in the keyword and be separated as follows.

**Table4: The various types of keywords in the study .Classified by type and duration.**

| Keyword | Article type | Duration 1 day | Total percentage (100%) | Duration 1 month | Total percentage (100%) |
|---|---|---|---|---|---|
| #IoT | Smart Home | 16 | 22.86% | 81 | 27.27% |
| | Smart City | 14 | 20% | 71 | 23.91% |
| | Wearable | 11 | 15.71% | 57 | 19.19% |
| | Industrial Internet | 10 | 14.29% | 49 | 16.50% |
| | Smart Grid | 9 | 12.86% | 17 | 5.72% |
| | Connected Car | 5 | 7.14% | 11 | 3.70% |
| | Connected Health | 4 | 5.71% | 7 | 2.36% |
| | Smart Farming | 1 | 1.43% | 4 | 1.35% |

The table above summarizes that in the Keyword.The most discussed articles on Smart Home.The objectives of this research project are:Find the Keyword IoTFor Life article out the most .Once the article is out and separated into categories.The researcher wanted to summarize the various aspects of each category in the Keyword.These are separated into each side as shown in the following table.

**Table5: Keyword was searched most each day in each month.**

| Keyword | Article type | category |
|---|---|---|
| #IoT | Smart Home | For convenience |
| | | For everyday safety and property |
| | | For energy saving |
| | | To care for the health of the home residents |
| | Smart City | Power management |
| | | Water power management |
| | | Waste management |
| | | Environmental Safety Detection and Monitoring System |
| | Wearable | Watch wearable computer |
| | | Wrist band wearable compute |
| | | Glass wearable computer |
| | Industrial Internet | Industrial and Manufacturing |
| | Smart Grid | Embedded electronics |
| | | Automatic control |
| | | Information and Communication |
| | Connected Car | Intelligent car |
| | Connected Health | Smart medical |
| | Smart Farming | Intelligent farm |

From the summary table above, let's see.Types in various articles.There are separate areas as well .It also helps to know that the difference in the effect on the article in each category as well.Therefore, the researcher searched and made the statistics separately into the following table.

**Table6: Keyword Type**

| Keyword | Article type | Each in the category | Duration 1 day | Total percentage (100%) | Duration 1 month | Total percentage (100%) |
|---|---|---|---|---|---|---|
| #IoT | Smart Home | For convenience | 0 | 0.00% | 3 | 4.85% |
| | | For everyday safety and property | 1 | 12.50% | 12 | 19.35% |
| | | For energy saving | 2 | 25.00% | 15 | 24.19% |
| | | To care for the health of the home residents. | 5 | 62.50% | 32 | 51.61% |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Total | 8 | 100.00 % | 62 | 100.00% |
| | Smart City | Power management | 3 | 30% | 14 | 25.45% |
| | | Water power management | 2 | 20% | 11 | 20.00% |
| | | Waste management | 1 | 10% | 5 | 9.10% |
| | | ระบบความปลอดภัยและการตรวจสอบด้านสิ่งแวดล้อม | 4 | 40% | 25 | 45.45% |
| | | Total | 10 | 100% | 55 | 100.00% |
| | Wearable | Watch wearable computer | 2 | 28.58% | 9 | 34.63% |
| | | Wrist band wearable compute | 4 | 57.14% | 14 | 53.84% |
| | | Glass wearable computer | 1 | 14.28% | 3 | 11.35% |
| | | Total | 7 | 100% | 26 | 100.00% |
| | Industrial Internet | Industrial and Manufacturing | 3 | 100% | 9 | 100.00% |
| | | Total | 3 | 100% | 9 | 100.00% |
| | Smart Grid | Embedded electronics | 0 | 0% | 0 | 00.00% |
| | | Automatic control | 1 | 100% | 2 | 66.66% |
| | | Information and Communication | 0 | 0% | 1 | 33.34% |
| | | Totla | 1 | 100% | 3 | 100.00% |
| | nn ect ed | Intelligent car | 1 | 100% | 2 | 100.00% |
| | | Totla | 1 | 100% | 2 | 100.00% |
| | ect ed He | Smart medical | 2 | 100% | 4 | 100.00% |
| | | Totla | 2 | 100% | 4 | 100.00% |
| | Smart Farming | Intelligent farm | 2 | 100% | 3 | 100.00% |
| | | Totla | 2 | 100% | 3 | 100.00% |

From the summary table above.You will see that each side of each article category will have an article in the Keyword.Differences in 1 day and 1 month. Some articles have increased in a month.Some articles may not have additional articles for a variety of reasons.May be caused by articles not accessible to social media .Twitter, caused by the Keyword does not reach the article itself.This may be a downside for some article articles cannot reach each side.

## CONCLUSIONS

This is the result of the Account search keyword And the number is mentioned in the tweet. It can also split the article into many aspects But the article has the most number in keyword. Most of Smart Home article were IoTFor Life that will come out in the form of Smart Home currently. It is a trend that is to meet the needs of human beings. Finally, the benefits of the system are: Collection of articles and analysis of articles by various keywords to lead to the creation of words with the Corpus database. [3]

Internet of Things is also considered a new thing for Thai society and the world But there is more to human roles By looking at the things of the appliances or items around us. IoT technology developed to be used in conjunction with And now the Thai government It has begun to be featured in the Thailand Industrial Development Strategy 4.0 or Thailand Plan 4.0 which is in part Smart Electronics (Smart Home). [10] This is a driving force behind the development of digital media And in line with the 12th National Economic and Social Development in terms of domestic development, science and technology research and development is a key step. Development of economy, society, environment and changing the way of life of people in all societies of all ages. [8] Knowledge of science and technology. It will be important to create new technologies and innovations that will benefit both domestic and international economies, such as Internet of Things, modern genetic technologies. The objectives of the Thailand 4.0 and the 12th Plan are similar. To develop Thailand in a better way, which today IoT is very successful. The researchers expect that in the future there will be technology that can reach humans and help facilitate more diverse human beings in many ways than today, reflecting. The introduction of IoT technology is consistent with our daily life. Even with the national development plan or Thailand 4.0, the IoT was used to benefit. It also shows how the future of IoT technology is playing a greater role.

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