

AIDING CYBER TACTICS THROUGH DATA VISUALISATION USING TABLEAU

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Abstract

Cyber is the magic mantra of contemporary world. It has overturned the human life, nay the entire universe. It has made us forget the way we lived, the way we worked, the way we communicated, and the way we traded in the post. With many of cybercrimes like cyber bullying, cybersquatting has grown the visualization techniques plays a great role in understanding the data day by day and to draw the result based on that. This paper surveys the cybercrime data in all the states of Tamil Nadu. It emphasizes how Tableau helps in drawing result.

Introduction

Tableau empowers everyone to see and understand the day. Its business intelligence for the entire organization explores and analyse the data in seconds. Just use drag and drop to know the results in seconds. Connect to the data either through excel or oracle or data warehouses. It can easily combine the data from all resources through visual and direct interface. Data can be transformed into powerful interactive dashboards. Data can be securely shared with data online with tableau online or tableau server. Hence everyone in the organization could ask questions online. Tableau management gives control over everything from user control till data management.

Let's bring data to life. This comes under the basics of Data Visualization. Data visualization is a concept where data is formulated in the form of a tool. To understand the patterns of the data and how exactly the data is can be done by Tableau. When data is visualized it could be understood faster. Even technical or non-technical persons could understand the data.

Importance of Tableau

When Tableau is compared with Power BI intelligence tool, the current generation tool is the self service business intelligence tool. Users can used to create dashboard using drag and drop. Depending on various factors 3 tools are selected depending on business. TABLEAU is one of leading visualisation tools in to simply drag and drop. This is a rich visualizing process which is business user friendly. Huge demand for people is there who knows different tools so that they can evaluate the best.

Products of Tableau connect to maximum 68 data sources. The desktop is used to visualize the cloud data. Server cleans data in very neat form and then use. Online- end-users are used to access dashboard. Cloud service provided. All hardware problems is taken care by TABULEAU online. Since it's a cloud platform, TABLEAU Public is the free version of TABULEAU. Reader software is used to open TABULEAU.

Reader – software is used to open TABU workbook. Product needed to be understood end to end. It is also necessary to understand pricing. The Architecture of data source need not be trustable. Once data is clean it is loaded in TABLEAU server. It is used in Natural Language Processing. It is auto insight and recommended. Non-conventional charts are the major advantage when using TABU software. This includes artificial intelligence and machine learning capabilities for several features. These tools reduce effort of IT developer and gives importance to business users. Hence business users don't rely on IT developers.

TELEGRAMAP is the major advantage of TABU software as it is used in descriptive analytics. BI tools are more user friendly in business. As an example we can quote in Dubai airport Altrix and TABU are mostly used. All data are automatically recognized by TABU. Data transformation cannot be done. No changes will be reflected to data source. Output of tableau preparation is saved as .csv file. .twbx and .twb contains vizualisation information and visualization data. Dashboard is the collection of measure. Dimension cannot aggregate. Measure can aggregate. Sort the data before presenting can sort in button with numeric rows.

There is a limit to the number of rows in Excel but not in Tableau. Limitations are based on hardware and RAM exporting.

In a battlefield where the GAO is reporting a 782% increase in cyber threats across a 7-year period, vast amounts of information are commonly processed and aggregated to identify theft, fraud and abuse. With this volume of data, how can you immediately identify not only the known threats that have pre-defined criteria, but also the unknown threats where attackers have modified their behavior? Through data visualization and agile analytics, you can react to cyber threats by quickly exploring the data and visually identify these anomalies.

Finity IT is a leader in cyber security services specializing in a set of capabilities that have helped many government agencies stay head of rapidly evolving threats. Watch webinar recording with Finity IT and Tableau Software to explore:

Current laws that ensure infrastructure safety and security

Modern Certification and Accreditation (C&A) processes

How to move beyond simplistic data dashboards for dynamic risk insight with agile analytics and data storytelling.

Cyber fraud is challenged in many fields. The patterns that are discovered using spatial data or crime data is of much use to investigation team. [1]

Cybercrime is an unlawful action against any individual using a system, and its online or offline applications. It occurs when information technology is used to commit or cover an offense. However, the act is only considered Cybercrime if it is intentional and not accidental.

Cybercrime and its types: Cybercrime includes Software Piracy that includes Intellectual property theft, Industrial spying, Computer virus or malware and Passing of child pornography. Categories of Cybercrime attacks include Spoofing, Hacking , Phishing, Denial of Service Attack and Cybercrime tools [2]. Sharing of information among social media is an important avenue. Social networks play important role in sharing information quickly [3]. Tableau as a visualization tool for cybercrime

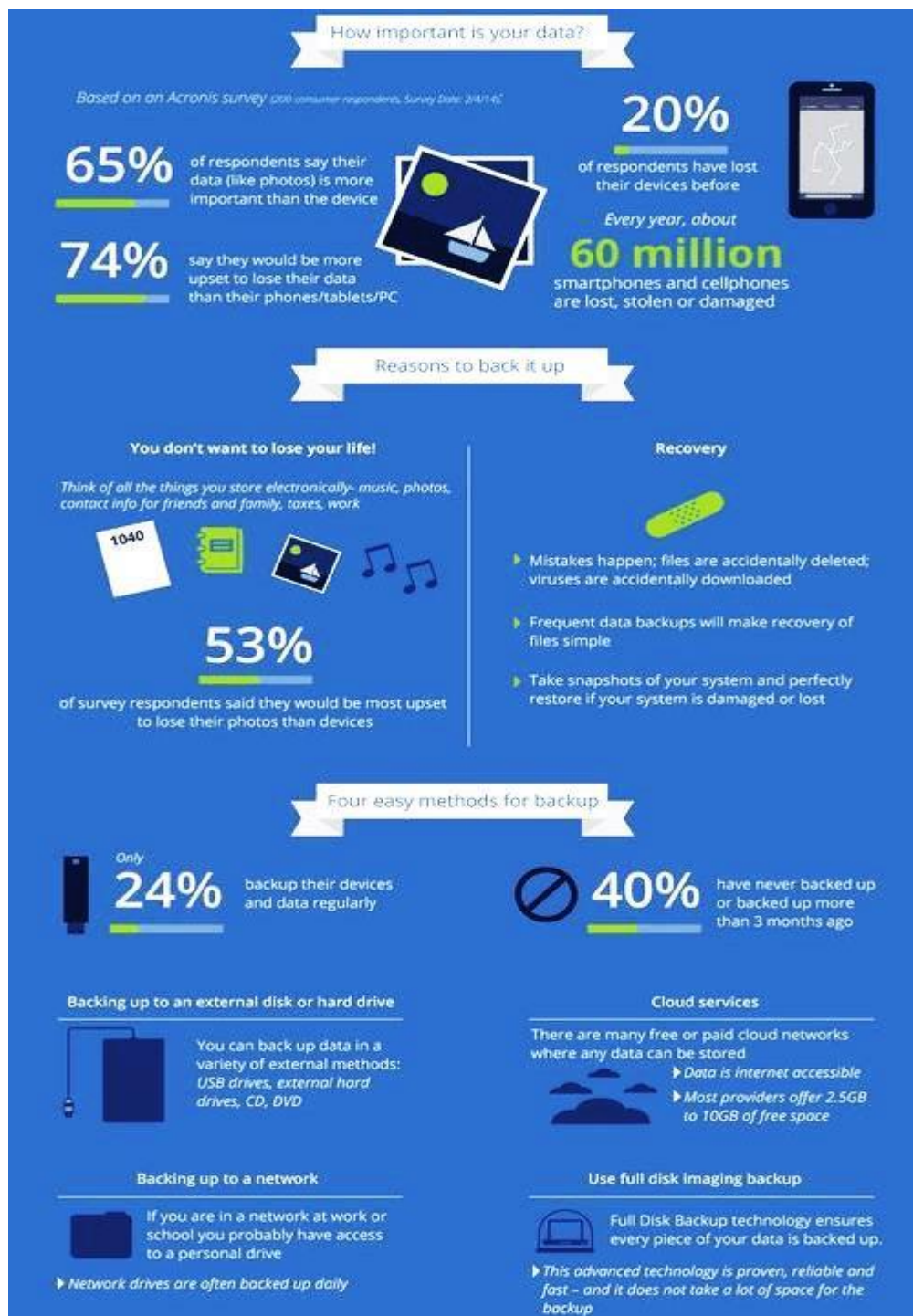


Fig 1: Methods of backing up data to prevent cybercrime



Fig2: Ways in which cyberattack is done with data

Cybercrimes are mostly created by new users of android phones. Temptation and suspiciousness tend to push the persons unknowingly to cybercrime [5].

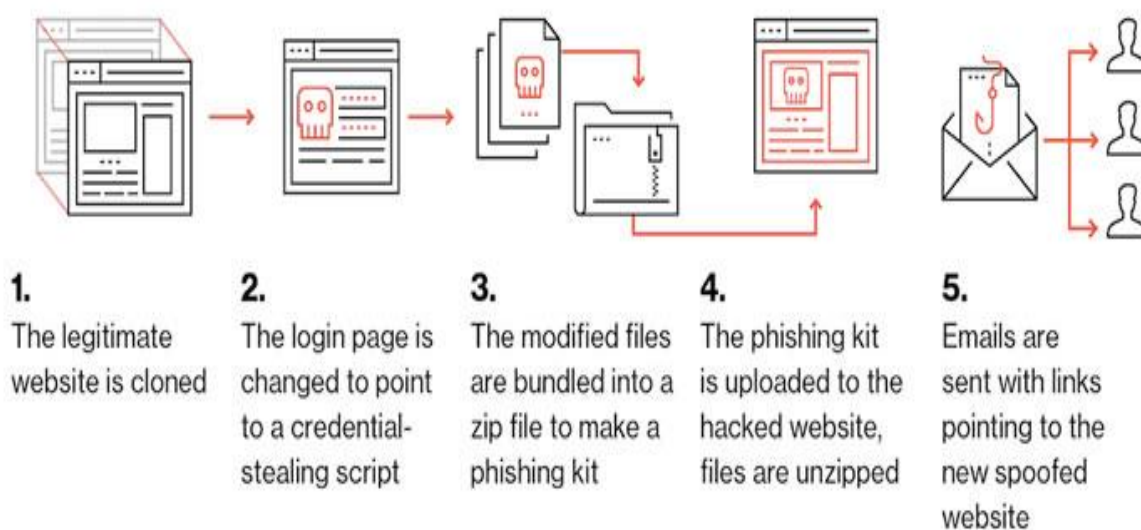


Fig 3: Phishing method

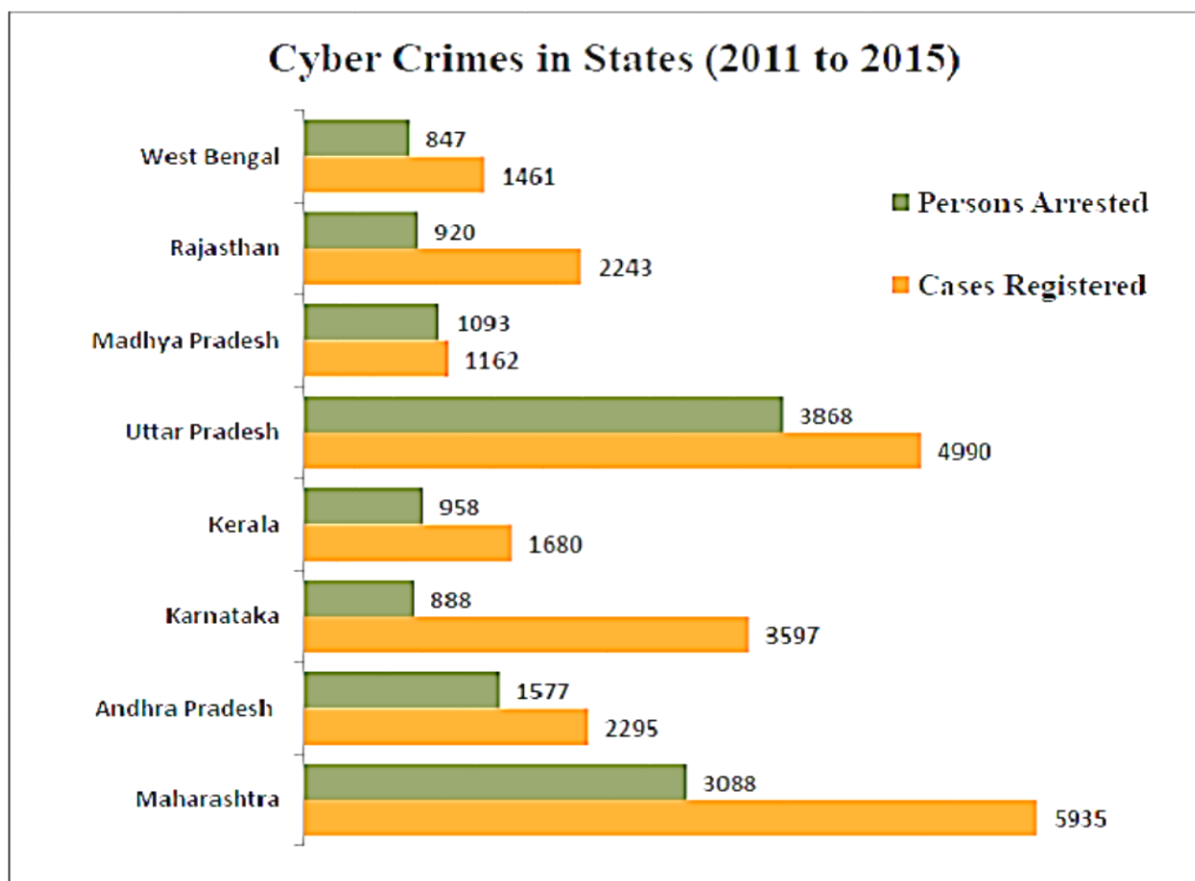


Fig4: Visualization tool showing cyber affected state from 2011 till 2015.

Table 1: PERSONS ARRESTED UNDER CYBERCRIME IN VARIOUS STATES FROM 2016 TO 2019.

S.No.	State/UT	Cases reported under total cyber crimes			Persons arrested under total cyber crimes		
		2016	2017	% Variation	2018	2019	% Variation
1	Andhra Pradesh	651	282	-	313	236	-
2	Arunachal Pradesh	10	18	80	5	2	-60
3	Assam	154	379	146.1	2	351	17450
4	Bihar	139	114	-18.0	229	111	-51.5
5	Chattisgarh	101	123	21.8	50	105	110
6	Goa	58	62	6.9	11	14	27.3
7	Gujarat	77	227	194.8	65	174	167.7
8	Haryana	323	151	-53.3	194	121	-37.6
9	Himachal Pradesh	28	38	35.7	13	16	23.1
10	Jammu & Kashmir	46	37	-19.6	16	4	-75.0
11	Jharkhand	26	93	257.7	20	57	185.0

12	Karnataka	533	1020	91.4	104	372	257.7
13	Kerala	383	450	17.5	169	283	67.5
14	Madhya Pradesh	342	289	-15.5	177	386	118.1
15	Maharashtra	907	1879	107.2	603	942	56.2
16	Manipur	1	13	1200	0	3	-
17	Nagaland	0	0	-	0	0	-
18	Odisha	104	124	19.2	62	17	-72.6
19	Punjab	156	226	44.9	133	159	19.5
20	Rajasthan	297	697	134.7	151	248	64.2
21	Sikkim	0	4	-	0	2	0
22	Tamil Nadu	90	172	91.1	97	120	23.7
23	Telangana	-	703	-	-	429	-
24	Tripura	14	5	-64.3	13	1	-92.3
25	Uttar Pradesh	682	1737	154.7	602	1223	103.2
26	Uttarakhand	27	42	55.6	6	39	550
27	West Bengal	342	355	3.8	209	212	1.4

([4] – Information submitted to American Public University library)

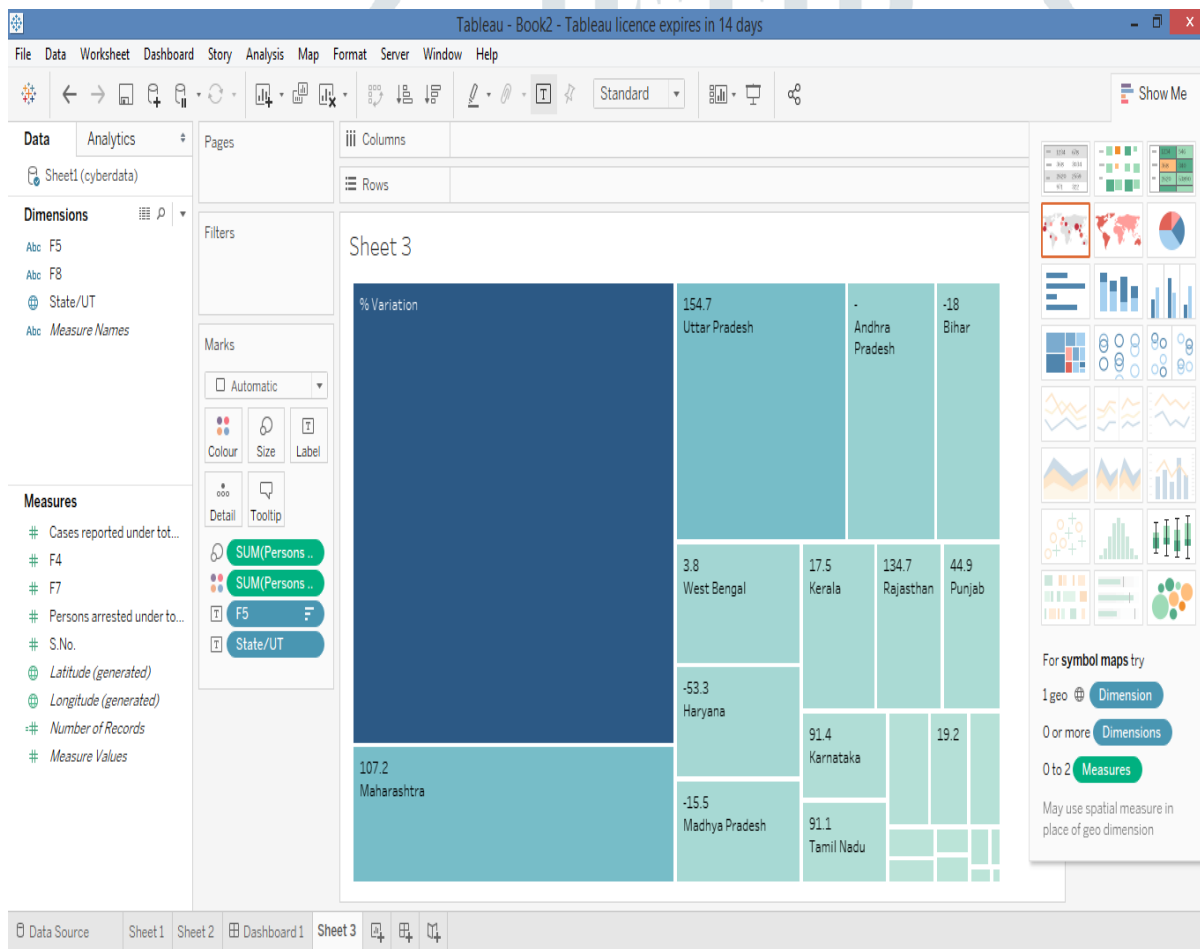


Fig 5: Tableau view of the Cyber crime data f

Conclusion: The greatest visualization charts of data include Google Charts like Tableau. The significant tools offers a selection of visualization styles, are easy to use, and can knob huge data sets. Hence Cybercrime twinned with Tableau is a great asset to the hackers. Data visualisation makes the work simpler and easier and this could be definitely achieved through Tableau.

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