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Cyber Threats on the Manufacturing Sector Afifa Ghouse /Advisor: Stan Mierzwa, M.Sc.; CISSP Criminal Justice - Center for Cybersecurity, Kean University, ghousea@kean.edu

Introduction

Manufacturing companies are more vulnerable to internet attacks now that they are more reliant on technology and digital infrastructure. Cyberattacks on the manufacturing industry can have serious consequences, such as production delays, the theft of intellectual property, and damage to one's reputation. At least 437 ransomware assaults occurred in the manufacturing sector in 2022, making up more than 70% of these expensive and disruptive attacks.

Manufacturing was the industry that ransomware attacks targeted most frequently in 2021, according to IBM X-Force Threat Intelligence Index. Because it has the ability to access, shut down, and disrupt computer systems, ransomware poses a serious threat to production. 70% of respondents to a survey on cloud backup services for the manufacturing industry thought it was imperative, while the remaining 30% felt it was crucial. there was a survey about cloud backup solutions for the manufacturing sector and got many responses.

The survey's opening question was, "How crucial do you think backup solutions are for manufacturing operations and business?" 70% of those who responded to the survey said it was imperative, while the remaining 30% felt it was crucial. The survivor also asked, "Are you currently looking for a backup solution?" with a yes or no response. 70% of the respondents declined, while 30% responded with "yes."

The data collected for this research was primarily done using collaborative research on Ransomware Trends in manufacturing companies in the past few years. The data collection method used secondary research or research that other authors have published, which was peer-reviewed and cited in the reference section. The other method used to contact the research was sending out a survey about cloud backup solutions for the manufacturing sector which received several responses.

Results

Ransomware prevention methods are essential, as the number of industrial enterprises is growing by 3.8% annually. Manufacturing and production companies have one of the lowest documented rates of ransom payments (33%), and 14 of the 16 critical infrastructure sectors in the US have been the target of ransomware attacks. Government entities experienced ransomware attacks against 14 of the 16 U.S. critical infrastructure sectors in 2021, and ransomware will be responsible for 23% of intrusions in 2021. Cloud Backup Solutions in the Manufacturing Industry questionnaire received 70% of respondents saying it is very important and 30% saying it is essential. Another question on the questionnaire was yes or no: "Are you currently looking into a backup solution?" 30% responded, said yes, and 70% said no.The timeline shown in this graph shows is from the survey.

Сору What part of the manufacturing industry do you operate in? 10 responses Industrial Manufacturing Automotive Manufacturing Consumer Electronics Manufacturing Chemical Manufacturing Food and Drink Manufacturing Printing and packing Aerospace Manufacturing Test Mining Consumer Packaged Goods Consumer Packaged Goods (non-food, HBA) FinTech medical device manufacturing Are you currently looking into a backup solution? 10 responses





Conclusions

The research underlines how ransomware, phishing, and other cybersecurity risks are becoming more and more of a worry for industrial companies. Additionally, it identifies particular problems and potential areas of research for improving manufacturing cybersecurity. Manufacturing facility attacks increased by 107% in 2022 compared to 2021, according to data from cybersecurity company Dragos. This year, 33% of firms worldwide have been hit by ransomware attacks, which have rapidly escalated. Companies should regularly patch and upgrade any software they use, train personnel on the various attack types, related risks, and effective defenses, create data backups, and have a recovery plan in place to lessen the likelihood of a cybersecurity attack. In a survey on cloud backup solutions for the manufacturing sector, 70% of participants regarded it as essential, with the most important factor being cost.

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