



in

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*Data is the new oil*

- Clive Humby



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My mission is to help you (and I) grow and learn, every day! My favicons include:

- ✓ Auditing of financial and IT systems
- ✓ Cloud awareness
- ✓ Cybersecurity
- ✓ CISA



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# CIS Critical Security Controls v8

<b>CONTROL 01</b> Inventory and Control of Enterprise Assets 5 Safeguards   01 2/5   02 4/5   03 5/5	<b>CONTROL 02</b> Inventory and Control of Software Assets 7 Safeguards   01 3/7   02 6/7   03 7/7	<b>CONTROL 03</b> Data Protection 14 Safeguards   01 6/14   02 12/14   03 14/14
<b>CONTROL 04</b> Secure Configuration of Enterprise Assets and Software 12 Safeguards   01 7/12   02 11/12   03 12/12	<b>CONTROL 05</b> Account Management 6 Safeguards   01 4/6   02 6/6   03 6/6	<b>CONTROL 06</b> Access Control Management 8 Safeguards   01 5/8   02 7/8   03 8/8
<b>CONTROL 07</b> Continuous Vulnerability Management 7 Safeguards   01 4/7   02 7/7   03 7/7	<b>CONTROL 08</b> Audit Log Management 12 Safeguards   01 3/12   02 11/12   03 12/12	<b>CONTROL 09</b> Email and Web Browser Protections 7 Safeguards   01 2/7   02 6/7   03 7/7
<b>CONTROL 10</b> Malware Defenses 7 Safeguards   01 3/7   02 7/7   03 7/7	<b>CONTROL 11</b> Data Recovery 5 Safeguards   01 4/5   02 5/5   03 5/5	<b>CONTROL 12</b> Network Infrastructure Management 8 Safeguards   01 1/8   02 7/8   03 8/8
<b>CONTROL 13</b> Network Monitoring and Defense 11 Safeguards   01 0/11   02 6/11   03 11/11	<b>CONTROL 14</b> Security Awareness and Skills Training 9 Safeguards   01 8/9   02 9/9   03 9/9	<b>CONTROL 15</b> Service Provider Management 7 Safeguards   01 1/7   02 4/7   03 7/7
<b>CONTROL 16</b> Applications Software Security 14 Safeguards   01 0/14   02 11/14   03 14/14	<b>CONTROL 17</b> Incident Response Management 9 Safeguards   01 3/9   02 8/9   03 9/9	<b>CONTROL 18</b> Penetration Testing 5 Safeguards   01 0/5   02 3/5   03 5/5



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**Wait... but that was not  
what British mathematician  
Clive Humby meant!**



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Really, so what did he actually say?

*Data is the new oil. Like oil, data is valuable, but if unrefined it cannot really be used. It has to be changed into gas, plastic, chemicals, etc. to create a valuable entity that drives profitable activity. so, must data be broken down, analysed for it to have value.*



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# **4** Underlying principles of data management

- 1) Data Provenance**
- 2) Data Privacy**
- 3) Data Protection**
- 4) Data Preparation**



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# 1

## Data Provenance (where did my data come from?)

- ✓ Public and private sources;
- ✓ Data doesn't come in the same quality.
- ✓ Data is dirty (filled with mistakes and omissions); flat out wrong and yet others are fictional.



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# 2

## Data Privacy (what am I allowed to do with this data?)

Key regulations in this regard include:

- ✓ The CCPA in California in the United States
- ✓ The European Union's GDPR



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# 3

## Data Protection (how can I make sure I don't lose the data?)

- ✓ Access controls – need to know, need to use;
- ✓ Ensuring availability for those who need it;
- ✓ Impact analysis based on sensitivity & criticality



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# 4

## Data Preparation (how do I go from data to useful data?)

Refining of data through:

- ✓ Data preparation
- ✓ Data cleaning
- ✓ Feature engineering (AI)



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# Putting things together

- A. Provenance: Know where your data came from
- B. Privacy: Know who it came from and what laws to follow to use it
- C. Protection: Don't lose the data, like, ever!
- D. Preparation: Know how to refine the data, and remember how you refined the data so that you can do it again and again consistently



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valuable ideas, information & inputs to  
you.

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*Thank you!*



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