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Comp 4058 Security Trends and Issues

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### Solution Evaluation Exercise: URL filtering

#### I. Goal

Organization has decided they must prevent users from accessing inappropriate and potentially malicious web sites. They are going to implement a security solution to monitor users' internet usage.

#### II. Decision Influence Group

##### 1. User

The user group has the lowest weight of the decision influence (0.1). Users are more focused on ease of use (0.3), less attention to the cost (0.1). The function and quality of are in the middle degree of attention (0.2).

##### 2. Executive

The management team of the company has the top priority for the decision. (0.3). As a management team, they usually focus on budge control (0.3) and assurance (0.3).

Usually, they do not care about the functionality and ease of use (0.1).

##### 3. IT

The support team for the project has the medium influence of the project. (0.1). For the IT department, they pay more attention to the function and quality of the solution (0.3).

They are less focused on easy use (0.1) and cost (0.2). They pay more attention to quality and functionality (0.3).

### III. The solutions

#### 1. Cisco Umbrella

The most expensive one (10) but has the best quality (95), most realizable (95) function (95) and ease of use. It is recommended for multinational companies.

#### 2. Open DNS

The free version of Umbrella has some limitations in terms of function (89). It costs less than the Umbrella (50) and has less quality (85), limited tech support (assurance 50) and good ease of use (80). It is recommended for middle size companies.

#### 3. Pi-hole

The simple version of Umbrella has the best value (100) but has no assurance (10) due to its opensource and free to use. It has no official tech support. It is midcore quality, function, and ease of use. It is suitable for small businesses.

### IV. Additional question

#### 1) What was the trend in business that created the need for URL filtering?

Nowadays, globalization is the major reason for increasing the demand for e-commerce. Each day thousands of new websites go online. Among these websites, there is a big portion that contains malware or viruses. To protect e-business free from malware or viruses, URL filtering is one of the solutions.

#### 2) List two examples of a security risk or threat that resulted from the trend.

Example 1,

Phishing website. Usually, a phishing website is a part of a phishing campaign. The phisher usually acquires the victim's credential information via an impersonated website.

Example 2,

Pharming, also known as DNS poisoning. Pharming is a technically sophisticated form of phishing involving the internet's domain name system (DNS). Pharming reroutes legitimate web traffic to a spoofed page without the user's knowledge, often to steal valuable information.

### Appendices

<https://www.techradar.com/best/best-url-filtering-software>

<https://learn-umbrella.cisco.com/technical-papers/sig-white-paper>

[https://www.cisco.com/c/dam/global/da\\_dk/assets/pdfs/OpenDNS.pdf](https://www.cisco.com/c/dam/global/da_dk/assets/pdfs/OpenDNS.pdf)

<https://docs.pi-hole.net/>