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**Risk Management Assessment and Control**

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## Part 1

Lopes Manufacturing has many corporate requirements that need to be considered. One of the law requirements includes NIST 800-53 as stated by Force (2017), a security acquiescence standard developed by the American <sup>3</sup> department of commerce and the National Institute of Standards in Technology, which reacts hastily to the emerging technological challenges. Also, this law is essential because it provides a compact direction on how companies should choose and manage adapted security and privacy controls for the information system, thus being helpful for Lopes in the use of cloud computing, safeguarding access controls and mobile devices. Another critical corporate law requirement is the PCI DSS. This law deals with information security standards for companies that deal with branded credit cards among the primary card processes (Phiri & Lapina, 2019). Besides, the major role of PCI is to deal with card brands. However, they are managed by the payment card sector security standards. This will protect Lopes from financial data breaches. The final corporate requirement is ISO/IEC 27001:2013, which is a law that stipulates the necessities for creating, executing, preserving and repeatedly enhancing an information security management system in the company. Diamantopoulou et al. (2019) stated that this law comprises needs for the evaluation and treatment of information security dangers specifically based on the company's requirements. Lopes Manufacturing will benefit from this law because it will ensure information security and provide private data safeguarding all these data from risks and have administrator identification for the firm. Moreover, executing these laws will aid in developing cyber protection and security controls in Lopes Manufacturing from any threats that may happen.

Security software plays a critical role in Lopes Manufacturing because most operations, including placing an order and payment details, are processed through the software. Therefore, it

is vital to protect the software and engineers to act ethically, especially when dealing with the company and client's information. The insecure software application will lose competitive advantage because clients will feel the company is not reliable.

Clients are the core part of Lopes Manufacturing because they provide employees with work to finish the roles and facilitate communication. Lopes' manufacturing has several departments, with each performing critical roles that enable the company functions to be achieved. Every department will have a client to facilitate the company duties.

Security devices must be organized efficiently. Or instance, devices such as hubs and routers need to be installed appropriately to stop the occurrence of any breach and threats that may affect the data stored in the database. Similarly, Lopes Manufacturing will benefit tremendously by securing their devices and enhancing their protection of customer and workers' information. Also, unauthorized individuals will be prevented from stealing the company's data hence guaranteeing customers as well as making them feel contented.

The database is a vital element in the Lopes Manufacturing system because it holds all the customers, products and employee's data. Therefore, this maintains the company in operation because they can easily retrieve customers' information and orders. Also, it is through the database that the company can evolve its manufacturing practices.

Servers provide the requirements of Lopes Manufacturing because it allows them to organize information. Some of the servers used by the company comprise Web Servers and mail servers. Davidavičienė et al. (2019) claimed that one of the important functions of servers is to improve security because employees and different departments can make individual folders and

store them on the server. Also, servers can allow employees to work remotely because they can easily access the resources to maintain their productivity and servers act as virus management.

Operational software is any software application presented to the customers as part of the company program. Therefore, Lopes Manufacturing will benefit from this software because it will reduce the firm's internal activities and, hence, create a chance of relating with customers, especially when offices could not be contacted. Also, the software will enhance communication between workers and managers.

Information technology staff needs to have specific training to handle and manage the internet hardware easily. Lopes Manufacturing can benefit from the trained personnel because they can easily operate the company infrastructure effectively on every part of the security protocol.

The Internet protocol can differentiate Lopes Manufacturing from other companies since they will have their confidential internet protocol. Therefore, their individuality is will be safeguarded by their originality of the products and processes utilized.

## Part 2

Classes and Assets	worth	Organization compliance	Client satisfaction	Competitive advantage	Business effectiveness
clients					
Desktop	critical	N	Y	N	Y
Laptop	Low	N	Y	N	Y
Printers	Low	N	N	N	Y

Cellphones	High	N	Y	N	Y
<b>Security Software</b>					
Anti-Malware	Critical	Y	Y	N	Y
Firewall	High	Y	Y	N	Y
<b>database</b>					
Workers Record	Moderate	Y	Y	N	N
Client File	critical	Y	Y	Y	Y
<b>Servers</b>					
DHCP	<sup>1</sup> Moderate	Y	N	N	N
Web	Medium	N	Y	N	N
AD	vital	Y	N	N	N
mail	high	N	N	N	Y
<b>Working software</b>					
Operating system	Perilous	N	Y	Y	Y
Corporate solutions	Medium	N	Y	Y	Y
websites	vital	N	Y	Y	Y
<b>Internet</b>					
Hubs	Moderate	N	N	N	Y
routers	High	N	N	N	Y
<b>Security Equipment</b>					

Electronic door	Vital	N	N	N	Y
Surveillance structure	High	N	N	N	Y
<b>Internet Protocol</b>					
mathematical data	medium	N	Y	Y	Y

### Part 3

Asset Worth	Low	Moderate	High	Critical
Unlikely	1	2	3	4
Possible	2	3	4	5
Likely	3	4	5	6
Certain	4	5	6	7

Assets	Risk	Asset Worth
Client Record	Loss of Client Information	5 vital/Likely
Workers Record	Worker information break	4 possible/high
Operating system	Inability to use the system	5 probable/vital
Electric doors	Unprotected entrance	7 certain/vital
Mathematical data	Damage of client data	4 certain/low
websites	False websites	6 likely/vital
Laptops	Individual information break	2 unlikely/medium

<b>Hubs</b>	<b>Harm of hardware</b>	<b>3 likely/low</b>
<b>Mobile phones</b>	<b>Individual information taken</b>	<b>7 certain/vital</b>
<b>Camera systems</b>	<b>Camera not working easy access</b>	<b>6 likely/vital</b>
<b>Routers</b>	<b>Destroy hardware</b>	<b>3 probable/medium</b>
<b>copiers</b>	<b>Getting network entrance</b>	<b>1 improbable /low</b>
<b>Websserver</b>	<b>Network disconnected</b>	<b>7 sure /vital</b>
<b>Corporate solution</b>	<b>Software failure</b>	<b>5 probable/vital</b>
<b>firewall</b>	<b>Application not working</b>	<b>5 probable/ vital</b>

#### **Part 4**

The company is willing to accept and avoid certain risks to accomplish its working objectives. Therefore, Lopes will be handling any risks that will happen and will be accountable as a company for the dangers. The firm's probable risks comprise the information provided by the customers and normal working days data. Thus, the provision of the policies and laws in the company is essential in protecting the firm's information as well as clients' and workers' data because it is their most critical responsibility. Nonetheless, Lopes can reduce the risks by adopting risk evaluation and management, including reusability, honesty and preservation of information. Moreover, assuring customers that the company protects their information creates trust and earns them a competitive advantage because clients know their data is secure.

#### **Part 5**

The risk control strategy is essential in reducing the impacts of risk in the company system. Therefore, Lopes can evade the dangers by developing a security project that will remove the possible risks and reduce the strength of the susceptibility by utilizing assets. Two approaches will be used, risk avoidance and mitigation, because the firm's risk appetite will consider all the phases by suitably formulating new managers and making employees aware of the new strategies of stopping any attacks.

Risk avoidance involves implementing protection that eradicates or minimizes the usual uncontrolled dangers for the susceptibility. Jensen & Redlein (2016) stated that risk avoidance could recognize many dangers or vulnerability as conceivable and execute approaches to moderate the risk and decrease the effects of the breach. Lopes Manufacturing has offered education to the employees and trained the security staff as well as developed security controls and measures. Also, critical laws and policies have been developed to assist in the deterrence of dangers and control anyone who will attempt to interrupt those laws.

The next risk control technique used by Lopes Manufacturing is risk mitigation. Threats can occur unpredictably and can come in various forms, including natural risks such as floods and earthquakes, physical and software risks. Therefore, Lopes need to reduce the dangers and susceptibility by mitigating the risks. Agrawal (2017) emphasized that risk mitigation is decreasing the effects of vulnerability to be conquered. Therefore, since most of the risks, especially natural, cannot be controlled, Lopes Manufacturing must place proper preparation. Some of the preparation includes creating policies and measures to counter the risks. Also, the mitigating measures comprise disaster recovery preparations, incident management and operation continuity preparations. Also, training the staff is another mitigation strategy; for instance, Lopes Manufacturing has trained the staff on how they can handle fire when it happens

in the information systems such as server rooms. A contingency plan is also developed through backups of information; hence the business can continue without severe losses.

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