DreS FoR LesS

Information Systems Design Project

Jan Lulajka

Jan.lulajka@vsm-student.sk

IS 330 Infromation Systems

Martina Česalová, M.S.C.S.

Information System Design Project

November 29, 2010

**Project goal**

The main goal company wants to achieve is to create information system that will support operations of the whole company in order to create comparative advantage over rivals on the Slovak market. Therefore, company decided to come up with highly sophisticated information system that will monitor sales, warehouse storage, orders and efficiency and effectiveness of the processes in the company in general. Regarding company would like to expand on the foreign markets, if successful in Slovakia, it is important to create system that will be complex and which will have high ability to adapt to changing environment. Also, it should be able to integrate all operation of the company into one place and last but not leas it should be user-friendly.

**Company Profile & Definition of Opportunity**

Company DreS FoR LesS Inc. is based in Hlinik nad Hronom because of its strategic location based on the easy accessibility to foreign markets such as Hungary, Poland and Czech Republic based on the fact that this area has good infrastructure in the form of R1 highway. The subject of business of this company is retail selling of working clothes such as shoes, gloves, shirts, t-shirts, trousers, vests, reflex materials, hats, ear plungs, mask etc.

The company consists of 5 tangible facilities. The headquarters is located in Hlinik nad Hronom, which also includes main warehouse and 4 retail shops, which are located in Košice, Bratislava, Žilina and Poprad. Company employs 28 people. These include 1 chief executive officer, 1 accountant, 4 managers (Supply Manager, Marketing Manager, Human Resources Manager and IT Manager), 10 regular employees based in Hlinik nad Hronom and 12 employees based in the local retail stores, which include 1 cashier, 1 sales person and a local manager.

Company sees great opportunity to expand on the foreign markets in the upcoming years because it provides superior products for prices that are even lower that those of regular quality products. Therefore, it plans to expand on the Czech market in the 1st year and on the markets of Poland, Hungary and Austria in the following years. This fact poses real challenge in terms company operations efficiency and effectiveness and therefore it is crucial for the company to have highly sophisticated information system.

**Business requirements**

Based on the aforementioned facts company requires an information system that will be highly adaptable, reliable, very sophisticated but at the same time user friendly. What is more, it is necessary to have system that will not require substantial training of employees and high costs, both financial and time, in terms of maintenance. Additionally, system design should not be simple only in terms of user interface but it also ought to be structurally as simple as possible.

**Scope**

Regarding this is new company on the market also the information system should be new and should come up with something that will create comparative advantage over company’s competitors. The system should be able to analyze sales, manage storage capacity in warehouses, analyze trends of sales, save records about customers, show detailed information about each product in the context of sales and popularity, make cost-benefit analyses, analyze the overall market situation, manage marketing information and put them in context of production, show the performance of each market and each retailer both separately and in context of market or a more specific location etc. It should integrate all aspects of company’s activities into one place in order to ease both decision-making processes and processes performed by regular employees. It could be concluded that the information systems should be able to manage complex operations about all forces that affect company’s business.

**Cost-Benefit Analysis**

The implementation of the information system that would be able to perform the aforementioned tasks would definitely bring benefits that could possibly not only help company to reduce its costs but also to create complex competitive advantage.

First of all, the information system would help company to manage its warehouses not only in short term but what is more important it would help company to create long term predictions and thus supply warehouse with the appropriate amount of goods. Company would gain advantage of making predictions based on the information provided by the information system based on the market development.

Secondly, the communication on all levels of communication chain would be definitely enhanced improving effectiveness of the company.

Thirdly, it would help managers to make more effective both long term and short terms decisions based on the quality analysis. It would provide them information necessary in terms of which products create the most revenue or which retail shop is doing well and which is not. What is more, the information system would also provide a kind of vigilance service if something goes wrong and subsequently allow manager to act in response.

It is expected that these direct benefits gained by the implementation of the information system should lead to indirect effects, which are naturally conditioned by good managerial decisions. The indirect benefits should be increased ability to respond to market changes and customers preferences, which lead to increase of sales. This would subsequently mean the increase in profit if other variables such as cost of goods sold or operating expenses remain unchanged.

In order to provide objective analysis it is necessary to take into account also costs linked with the implementation of the information system. First very essential cost is link to acquisition of the software part of the information system. Secondly, it is necessary for company to acquire hardware solutions, which also requires significant amount of finances. Another costs linked to the implementation of new information system is training of employees. This cost is particularly important and must be treated with delicacy because during time when employees are being trained they cannot perform other tasks on the regular performance level. Moreover this training should be performed effectively in order to cut both financial and times costs. The last cost linked with the implementation of the information system is maintenance cost. We mention maintenance cost in wider context because naturally we do not expect maintenance to be performed at the very beginning, nevertheless, we see the quality of implementation itself as very crucial because when done improperly it will lead to increased maintenance costs in the future.

**Obstacles and Risks**

Talking about implementation process it is necessary to create appropriate environment in the company in order to introduce information system successfully. Therefore, it is particularly important to choose the location with good telecommunication infrastructure for business. Also it is important to recruit employees who have potential to learn and are capable of working with the newest information technologies. The same applies to managers. They should be able to take advantage of this system as much as possible because if they fail to do so, the benefits resulting from this system will be significantly lowered. Another possible obstacles or risks that might be encountered are linked to the planned expansion of the company on the foreign markets. It is doubtlessly challenging for management to successfully implement this system as cross-boundary IS because of possible regulatory forces that might possibly significantly influence the original plan. Management of the company should be aware that all these and other possible obstacles and risks should be taken into account and considered seriously in order to either avoid them or be prepared to face them.

**Information System Proposal**

The implementation of the new information system requires complex solutions on several levels. For company it is a need to acquire software, hardware, introduce network solution and clearly define scheme of this cross-functional system solution.

***Cross-Functional Software:***

Information system used by DreS FoR LesS Inc. will be using specialized Oracle Business Intelligence Standard Edition One software capable of analyzing complex business operations described in the “Scope” section of this Information Systems Design Project. This software will be based in headquarters of the company and will serve as so-called “middleware” software. It will directly communicate via Internet with supported general-purpose software such as Microsoft Office Suite located on the computers in both retail shops and main warehouse. This software will secure automatic updating of data in the headquarters as data on the local computers are changed and saved. This software solution allows one to access it from computers that are part of this Internet-based network. This Business Intelligence software will be accessible only from computers that are predefined and which this software recognizes suing Virtual Private Network. The great advantage of this system is that it is actually internet-based and also the fact that it creates its own server in the web environment and allows to immediately respond to changes. This software solution provides all necessary tools to effectively manage all operations in company. What is more, all critical information is updated immediately when saved on a local computer and is instantly available for analysis by managers. All information is available in centralized “dashboard” where it can be effectively analyzed in the context of business operations. Moreover, this system also supports access from local computers for partial analysis by that particular department. Therefore, it is very useful not only for top management but it is also useful for department managers and supervisors (Oracle, n.d.).

***Software:***

1. **Operating Systems:**

- Windows 7 Ultimate [€319**x7**= **€2,233**] (Microsoft, n.d.)

- Windows 7 Professional [€309**x6**= **€1,854**] (Microsoft, n.d.)

1. **General Purpose Software:**

- Microsoft Office 2010 [€179.50**x13**= **€2,333.50**] (CPress Media s.r.o, n.d.)

- Adobe Acrobat X Pro [€449**x1**= **€449**] (Adobe, n.d)

- “Eset Smart Security BE” [€189.81**x3**= **€569.43**] (Eset s.r.o, n.d.)

1. **Application Specific Software:**

- OMEGA Accounting Software [€195.53**x1**= **€195.53]** (Kros a.s, n.d.)

- VAT Module Software [€116.52**x1**= **€116.52**] (Kros a.s, n.d.)

- “Parallels Desktop 6.0” [€69.99**x1**= **€69.99**] (Parallels Holdings Ltd., n.d.)

1. **Cross-Functional System Solution:**

- “Oracle Business Intelligence Standard Edition One” [€947**x1**= **€947**]

(Oracle, n.d.)

- 1-Year Prepaid Support for OBISEO [**€208.38**] (Oracle, n.d.)

**- Total Software Costs: €8,976.35**

***Hardware:***

**- Hardware summary:**

- 1 desktop Computer for CEO

- 12 laptops

- 1 multifunctional printer

- 4 laser printers

- 6 smartphones

- 22 cell phones

- 1 switch

- LAN cables

- 4 Wi-Fi routers

- 1 “magic trackpad”

- 1 keyboard

**- Computers:**

**- Desktop Computers:**

- “Mac Pro” - “2X 2.66 GHz 6-coreIntel Xeon “Westmere”

- 16 GB RAM DDR3 SDRAM

- 4 TB HDD

- 2X ATI Radeon HD 5770 1GB

- LED Cinema Display 27” 2560x1440

-Keyboard

-Trackpad” (Apple Store US, n.d.)

- €5,726**x1**= **€5,726** (Apple Store US, n.d.)

**- Laptops:**

**- “**Macbook Pro 17” - “2.53 GHz Intel Core i5

-4GB RAM DDR3

- NVIDIA GeForce 330M GT 512 DDR - Graphical Processor Intel HD 256 MB DDR SDRAM

- 500 GB HDD” (Maczone, 2010)

- €2,249**x1**= **€2,249** (Maczone, 2010)

**- “**Macbook Pro 15”- “2.4 GHz Intel Core i5

- 4GB RAM DDR3

- NVIDIA GeForce 330M GT 256MB GDDR3

- Intel HD 256MB DDR3 SDRAM

- 320GB HDD” (Maczone, 2010)

- €1,764**x5**= **€8,820** (Maczone, 2010)

- “Lenovo Ideapad G560” - “2.4 GHz Intel Core i3

- 4GB RAM DDR3

- NVIDIA GeForce 310M 512MB DDR3

- 500GB HDD” (Alza, 2010)

- €599.03**x2**= **€1198.06** (Alza, 2010)

**“**Sony VAIO” - “2.26 GHz Intel Core i3

- 4GB RAM DDR3

- ATI Radeon HD 5470 512MB

- 320GB HDD” (Alza, 2010)

- €728.17**x4**= **€2,912.68** (Alza, 2010)

- **Printers:**

**- Multifunctional printer:**

- **“**Xerox Workcentre 7120” [€5,232**x1**= **€5,231**] (Xerox, n.d.)

**- Laser printers:**

- “Xerox Phaser 7500/DN” [€2,246**x4**= **€8,984**] (Xerox n.d.)

- **Smartphones:**

- “Apple iPhone 4” [€790**x6**= **€4,740**] (Maczone, 2010)

- **Cell phones:**

- **“**Nokia 6700” [€240**x22**= **€5,280**] (Finesa, n.d.)

- **Switch:**

- “HP ProCurve 2520G-24 PoE” [€1,744**x1**= **€1,744**] (Alza, n.d.)

- **Router:**

- “Netgear WGAP950 ProSafe” [€951.15**x4**= **3804.6**] (Alza, n.d.)

**- Total Hardware Costs: €50,689.34**

***Networking:***

The Internet connection will be provided by Orange Slovensko a.s.. Company is going to use product called “FiberNet Biznis Plus” and “FiberNet VPS” (Orange, n.d.). These two products perfectly fit the information system solution in the company regarding they provide 50Mb/s both upload and download speed and therefore allow superfast communication between computers which is important for this company. What is more, these products are directly focused on companies, which require virtual private networking (Orange, n.d.).

In terms of the structure of network solution, company is going to use cable Internet in the headquarters and Wi-Fi Internet in the retail stores.

**Implementation of the Information System Solution**

In order to successfully implement the information system it is necessary to create clear and effective plan. If plan is not prepared it is likely that problems during implementation phase will occur. What is more, the improper implementation may have long-term effects on the overall ability of the information system to operate. Therefore, we find it crucial to respond to this challenge responsibly and to come up with good implementation plan.

First of all it is important to identify the time schedule provided by the requestor. Regarding in this case it is pretty clearly defined and even subdivided into more phases it is important to adjust the plan accordingly in order to fulfill the criteria of the requestor. Based on these facts we have decided to come up with the plan that includes several stages, which are.

At first, as required by the requestor it is necessary to come up with the proposal of the information system. This should be done in 3 weeks.

Secondly, The implementation of the system itself is subdivided into several stages. The system should be “tuned up” and working properly in six months. Initially, it is important to create a good background, which we have already mentioned in the “obstacles and risks” section of this project. This part is important particularly as far as employees are concerned. It is so because without improper employees it will be not possible to successfully manage the system and to take advantage of all benefits it offers. What is more it is also crucial to create proper physical environment by choosing good location, buildings, infrastructure etc.

Another step in the implementation process is the acquisition of hardware, software networking and cross-functional system solutions. It is necessary to acquired hardware software and network solutions before we implement information system because it would be simply impossible to do so before. What is more, this stage is also very important because if bad hardware, software or networking solution is chosen it will definitely have a negative impact on the information system as well.

When the proper physical and technological background is created it is time to implement Cross-Functional system solution. However, implementation itself is not enough it is also necessary to tune it up properly and to adjust operational process in the company to successfully integrate it into the company’s structure. In order to achieve the integration it is necessary to undergo another stage of implementation.

Next step of the implementation of information system is to teach employees and managers to use it. This stage is also very important as we mentioned above.

The last step has already been sketched. It is information system integration with the company processes in order to become inseparable of the company. This stage is result of the previous stages and is very crucial because if not done properly the whole idea of information system implementation fells short of the mark. If company fails to center all it processes on information system, whole effort associated with the implementation is pointless and information system becomes useless.

|  |  |
| --- | --- |
| Time Schedule | Activity |
| Week 1-3 | Project Proposal |
| Week 4-10 | Creation of Background |
| Week 10-16 | HW, SW, NW & CFS Acquisition |
| Week 16-18 | Cross-Functional System Implementation |
| Week 18-20 | Employee Training |
| Week 20-24 | Cross-Functional System Integration |
| TOTAL - 24 Weeks |  |

**Evaluation**

Regarding the aim of the company is to integrate the information system into the company’s processes it is necessary to assure that system is working properly and that is has potential into the future. Therefore, it is a need to evaluate system performance, hardware capabilities, software update timeliness, scalability of the information system, network capabilities, usage by employees and others. In order to achieve this, it is necessary to make regular analyses of all the mentioned aspects of the information system.

**Conclusion**

This information system must perform both effectively and efficiently while still preserving user-friendliness. In order to avoid insufficient usage by employees it is necessary to integrate it as deep as possible. The best thing to do is to build the company upon this information system. This approach would definitely provide a competitive advantage over the competitors. What is more, if followed, this approach would utilize all of potential of this information system. Therefore, every action the company takes should be conformed to achieving this aim. We believe that simple design and great capabilities of this information system will definitely help company in achieving its both domestic and international goals. Moreover, we believe this system will be indispensable in the future for the company as it expands on the global markets.

References

Adobe Systems Inc. (n.d.) *Adobe Acrobat.* Retrieved November 26, 2010, from http://www.adobe.com/products/acrobat.html

Alza (n.d.) *SONY VAIO VPCEB3L1E/WI bílý.* Retrieved November 26, 2010, from http://www.alza.sk/sony-vaio-vpceb3l1e-wi-bily-d188889.htm

Alza (n.d.) *Lenovo Ideapad G560.* Retrieved November 26, 2010, from http://www.alza.sk/lenovo-ideapad-g560-d187724.htm

Alza (n.d.) *Netgear WGAP950 ProSafe.* Retrieved November 26, 2010, from http://www.alza.sk/netgear-wgap950-prosafe-d176250.htm

Alza (n.d.) *HP ProCurve 2520G-24 PoE.* Retrieved November 26, 2010, from http://www.alza.sk/hp-procurve-2520g-24-poe-d178426.htm

Apple Store US (n.d.) *Configure Your Mac.* Retrieved November 26, 2010, from http://store.apple.com/us/configure/MC915LL/A?mco=MTk4Mjc2MDA

CPress Media (n.d.) *Živé* Retrieved November 26, 2010, from http://eshop.zive.sk/katalog/pcakomunikacia-software-ms-office/

ESET (n.d.) *ESET Smart Security Business Edition.* Retrieved November 26, 2010, from http://www.eset.sk/cenniky/eset-smart-security-business

Finesa (n.d.) *Nokia 6700 Classic Silver metallic. .* Retrieved November 26, 2010, from http://nokia.finesa.sk/nokia-6700-classic-silver-metallic-p393

KROS a.s. (n.d.) *Price List.* Retrieved November 26, 2010, from http://www.kros.sk/cennikomega

Maczone (n.d.) *MacBook Pro 15" 2.4GHz Core i5 + LaCie Coat púzdro.* Retrieved November 26, 2010, from http://www.mzone.sk/macbook-pro-15-macbook-pro-15-2-4ghz-core-i5-lacie-coat-puzdro-1789

Maczone (n.d.) *MacBook Pro 17" 2.53GHz Core i5 + LaCie Coat púzdro.* Retrieved November 26, 2010, from http://www.mzone.sk/macbook-pro-17-macbook-pro-17-2-53ghz-core-i5-lacie-coat-puzdro-1785

Maczone (n.d.) *iPhone.* Retrieved November 26, 2010, from http://www.mzone.sk/ipad-ipod-iphone/iphone

Microsoft (n.d.) *Shop* Retrieved November 26, 2010, from http://windows.microsoft.com/sk-SK/windows/shop

Oracle (n.d.) *Oracle Store: Oracle Business Intelligence Standard Edition One.* Retrieved November 26, 2010, from https://shop.oracle.com/pls/ostore/f?p=ostore:product:4179182663816069::::P3\_PPI,P3\_LPI,P3\_METRIC,P3\_TERM:1760420647896550979,4509470156031805719949,Named%20User%20Plus,\_Perpetual

Orange (n.d.) *FiberNet - Pre Firmy.* Retrieved November 26, 2010, from http://orange.sk/web/fibernet/fibernet\_pre\_firmu.html

Parallels Holdings Ltd. (n.d.) *Parallels Desktop for Mac*. Retrieved November 26, 2010, from http://www.parallels.com/eu/products/desktop/

Xerox Corp. (n.d.) *Phaser 7500 Color Printer for Professional Printing.* Retrieved November 26, 2010, from http://www.office.xerox.com/printers/color-printers/phaser-7500/enus.html

Xerox Corp. (n.d.) *WorkCentre 7120 Color Laser Multifunction Printer. .* Retrieved November 26, 2010, from http://www.office.xerox.com/multifunction-printer/color-multifunction/workcentre-7120/enus.html