Übungen Wirtschaftsinformatik

Bitte bereiten Sie die Hausaufgabe einzeln oder in der Gruppe **VOR** der Übung vor.

Die Ergebnisse werden zu Beginn der Übung von allen Gruppen eingesammelt.
Erfolgreiche Teilnahme =

1. Abgabe der Dokumentation der Hausaufgaben zu Beginn der Übung +
2. Erfolgreiche Erarbeitung und Präsentation der Aufgaben während der Übung

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Übung 3:
Hausaufgabe

Hausaufgabe: IS in Action: Vision X Lighting Grows with SAP Business One

1. Sehen Sie sich die beiden Videos an:

Vision X Lighting's Bright Future with SAP Business One

URL http://www.youtube.com/watch?v=4B8vT-olDOw

SAP Business One in 60 Seconds

URL http://www.youtube.com/watch?v=CHe6LLvkDnY

2. Lesen Sie die Fallstudie aufmerksam durch und beantworten Sie die zugehörigen Fragen.

Hausaufgabe 2: Harvard Architektur

1) Führen Sie eine Internetrecherche durch und zeichnen Sie die Architektur eines Harvard Rechners auf

2) Was sind die Vor- und Nachteile im Vergleich zwischen der Harvard und der von Neumann Rechner Architektur?

3) Recherchieren Sie heute noch existierende Anwendungen der Harvard Architektur in der IT

Übung 3: Fallstudie

IS in Action: Vision X Lighting Grows with SAP Business One (1)

Summary:

Vision X is a manufacturer of LED after-market lighting products for the automotive and commercial trucking markets. It has been growing at over 12% annually in the last decade, and entered a number of new market segments for its products. With multiple products and markets, the firm outgrew its early reliance on spreadsheets and accounting packages to manage the business. It turned to SAP's small and medium size business Enterprise Resource Planning system as a solution.

Case:

Vision X is one of the largest global manufacturers of specialized LED lighting for commercial and automotive vehicles. Located in Algona, Washington, the company was founded in 1997 by an immigrant from South Africa who graduated from the University of Puget Sound. The company quickly took advantage of the emerging technology of LED lights, and was a pioneer in developing practical, and rugged LED lighting fixtures.

Today, the firm's lighting products are used in consumer and public safety cars and trucks, and in vehicles operating in severe environments such as mining, construction, marine, and logging. Vision X lights were chosen to be on NASA's lunar rover lights for future missions.

The U.S. after-market truck and automotive lighting market is estimated to be $70 billion, and growing at 5.8% annually. LED lighting is a growing portion of that market estimated at around 30% and is rapidly displacing halogen and other technologies. The largest suppliers and competitors for Vision X are Philips, OSRAM, GE Lighting, Eaton, Panasonic, and Toshiba although these firms focus on the OEM market of the major car and truck manufacturers. Vision X focuses on a niche after-market customer with specialized lighting needs.

Vision X manufactures over 4,000 products. Two thirds of its business derives from the mining industry. Vision X has grown from a start-up in 1997, to a global lighting power by re-investing its profits into the business to conduct extensive R&D of new products. It has no outside investors. As a private company, Vision X does not release financial information, but industry sources estimate that the firm's revenue has more than doubled from $37 million in 2012, to over $75 million in 2018. It has been nominated to Inc. Magazine's list of the 100 fastest growing manufacturing companies for several years.

Like most start-up firms that succeed, the systems used in the early years of fast growth are rarely capable of scaling and growing with the firm. Start-up firms typically start by using Excel spreadsheets to manage their firms, and then migrate to business accounting and tax packages like Intuit QuickBooks. For firms that grow into multi-product, multi-market firms, these solutions become less viable. Vision X was, and still is, organized into divisions that parallel their markets. For Vision X the major market segments are consumers (check them out on Amazon), mining, marine, public safety, and construction.

The divisions and market segments of the company emerged at different times as did the systems built to support each division. The result was multiple systems, and data-bases that could not communicate or share information for the entire company. This made it difficult for managers to compare the performance of different divisions, and form an overall view of the firms operations, inventory levels, sales, human resources, and financial performance.

What Is SAP Business One?

SAP provides integrated database and applications to firms that allow managers to access firm-wide data for the major business functions such as production, procurement (supply chain systems), distribution, sales, accounting, human resources, corporate performance, and customer services and relationships. ERP systems integrate these business functions in a single system. SAP is one of several providers of what are called Enterprise Resource Planning systems (ERP) such as Oracle, Baan, Microsoft, JD Edwards, and many others.

ERP systems were a great leap forward when first developed in the 1970s because they provided a single shared database used by nearly all the major functional business processes, and business divisions, in a firm rather than having separate databases for each division, e.g. consumer products, and for specific processes, e.g. a marketing database and set of applications. ERP systems allow data to flow automatically among departments, from, say, sales

Übung 3: Fallstudie

IS in Action: Vision X Lighting Grows with SAP Business One (1)

to finance to accounting. Today ERP systems are the lifeblood of very large, global firms, providing managers with access to firm-wide data through reports, dashboards, and mobile clients. While most ERP systems operate on corporate facilities, about 20% of ERP systems have moved to cloud servers.

Because of their cost, ERP systems were limited to very large firms capable of spending upwards of $100 million on the development and integration of global ERP systems to replace legacy systems. The Global 1000 market is largely saturated today, profitable, but growing slowly at about the rate of GDP growth. SAP, along with others, now focus on systems for medium and small businesses which face many of the same business problems as very large firms but have limited budgets. The medium to small business ERP market is growing at nearly 10% annually.

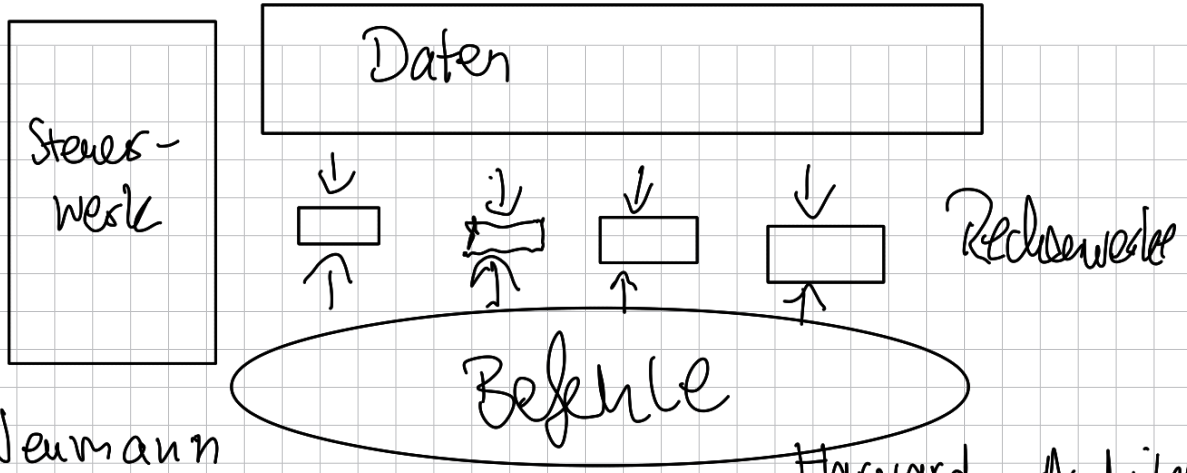
SAP Business One is a cloud-based ERP system designed for use by small and medium sized firms. The emphasis is on providing managers a single source of all corporate information, the ability to gain insight into business performance, and to make decisions about pricing, sales, inventory, accounting, distribution, and finance based on near real-time data. The costs are substantial, but affordable for many: firms can implement various modules as the need arises, over a period of time. In this sense, small-firm ERP systems can grow with the business. Cloud-based versions eliminate the need for on-premise data centers, and customers are charged only on the basis of actual use (metered computing). Vision33 is a partner of SAP that provides consulting and implementation services to firms that adopt SAP ERP systems.

Questions:

1. What were the primary business drivers that led Vision X managers to seek out an ERP system?
2. Why is SAP Business One an “All in one solution?”
3. What do the managers at Vision X mean when they say their goal was to develop “visibility into BOMs”? [BOMs refers to the Bill of Materials needed to produce a product, or a listing of the components that need to be manufactured or procured in order to produce a final product].
4. What role did Vision33 play in the development of Vision X’s new ERP?

1) - SAP Business One
   ↳ cloud-based SAP system for small and medium companies
2) - firmwide-access to the datas
   - can connect informations from multiple areas and segments
   → production, human resources, sales, accounting
3) - visibilty of how much they need those need and for what prices they need the materials

1)



2) Neumann

(+)
- geringere Kosten durch Verwendung von weniger HW

(-)
- anfällig für Viren
  ↳ gleichseitiges Lesen & Schreiben möglich
- Flaschenhals, da Daten häufiger genutzt werden
- getrenntes Laden von Befehl & Daten

Harvard Architektur

(+)
- bessere Performance
- sicherer
- kein Flaschenhals
- gleichzeitiges Laden von Befehlen & Daten

(-)
- teurer

3) Heutige Verwendung
- Raumfahrt (Appollo Mission)

Übung 3: Aufgaben

Aufgabe 1: Erstellung eines einfachen Assembler codes

Erstellen Sie basierend auf dem Befehlssatz des vereinfachten Prozessorsystems aus der Vorlesung ein Programm, welches den Mittelwert einzugebender Zahlen ermittelt und ausgibt (solange bis 0 eingegeben wird). Sie sollten dafür nicht mehr als ca. 13 Befehle benötigen.

Speichern Sie Ihr Programm mit einem geeigneten Editor als Dateityp .asm ab und laden Sie es im Moodle-Kurs unter der Abgabe unter der Praktikumsaufgabe hoch (einmal pro Gruppe reicht).

Übung 3: Aufgaben

Aufgabe 2: TCO (Total Cost of Ownership) Analyse

Sie wurden beauftragt, für Ihr Unternehmen eine Entscheidungsvorlage für eine neu zu implementierendes CRM (Customer Relationship Management) – SW zu erarbeiten. Die Anforderung ist, von einem Planungshorizont von 5 Jahren mit 30 Nutzern auszugehen. Dabei sind Sie auf zwei alternative Lösungsansätze gestoßen:

Alternative 1: Miet-Lösung (Cloud basiert)

Ein Unternehmen bietet einen Komplettservice zum Preis von 3000,- Euro pro Benutzer pro Jahr. Zusätzlich fallen für die Implementierung und Anpassung der Standardlösung 20.000 Euro im ersten Jahr und ein Schulungsaufwand von 15.000 Euro an.

Alternative 2: Installation der SW auf eigener HW

Der Anschaffungspreis für die unbeschränkte Nutzung der SW beträgt 150.000,- Euro im ersten Jahr und jährliche SW Upgrades für 10.000,- Euro. Außerdem wird ein neuer Server im Wert von 5.000 Euro und Anpassungs-arbeiten in Höhe von 30.000 Euro im ersten Jahr benötigt.
Für die Laufende Wartung und den Service der SW wird ein Informatiker mit 40% Auslastung benötigt. Die Personalkosten einer Vollzeitstelle betragen dabei 90.000 Euro pro Jahr, und Sie rechnen mit einer Lohnkostensteigerung von 2% pro Jahr. Für die Schulung der Nutzer rechnen Sie mit 15.000 Euro im ersten Jahr.

1) Führen Sie eine TCO Analyse für beide Alternativen für einen Zeithorizont von 5 Jahren durch. Wie würde Ihre Empfehlung bei einem Nutzungshorizont von 2 Jahren und von 5 Jahren aussehen?
2) Reicht aus Ihrer Sicht eine reine Kostenbetrachtung oder sollten noch weitere Faktoren für die Entscheidung in Betracht gezogen werden?
3) Arbeiten Sie Ihre Ergebnisse in präsentierbarer Form auf.