Feasibility study and project selection

Enterprise Software Selection supporting new Supply Management Strategy at Harley-Davidson

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1. Introduction and background to the proposal

The targeted company is Harley-Davidson, Inc., a 6,000 people employing manufacturer focusing on construction and selling of heavyweight motorcycles as well as accessories. While the headquarters is located in Milwaukee, Wisconsin, more factories exist in North America and Europe. 83 percentages of independent dealer sales took place in U.S. and European regions generating total net revenue of US$ 4.86 billion in 2010. Further sale markets are Canada, Australia, Japan and Brazil[1].

Among Harley-Davidson's biggest competitors are Honda, Yamaha, Suzuki, and Kawasaki. Their target field of operation is constantly growing by 13.8 percentages each year indicating further expansions for the next years[2].

2. The proposed project

The project's goal is to select a suitable software product and vendor for long-term planning and operating of supply management within Harley-Davidson's organizations. It is seen as follow-up to Harley-Davidson's recent strategy-shift from short-term decentralized to a centralized procurement organization (see section 4 for more details) and expected to achieve major improvements in respect to the transformation of internal and external organisations and processes. In-depth details about resulting benefits and outcomes are given in section 5 and 8.

3. The market

During this decision making process two major questions regarding the finally selected product have to be answered. The software market is split into procurement-focused standalone solutions and full-featured Enterprise Resource Planning software. The later additionally provides support for all major business activities including production, finance and controlling, human resource, selling and marketing and customer relationship management.

Sole procurement software has a deeper focus on procurement processes. It is therefore easier to learn and integrate into Harley-Davidson's existing software layers. While making a decision double structures regarding the organisation's software infrastructure has to be avoided.

Major software vendors are SAP AG, which provides both a full-featured ERP solution *SAP Business Suite* and an operations-focused *SAP ERP Operations*[3] as well as *Microsoft Dynamics GP*[4], which was acquired from Grad Prairie Software by Microsoft in 2001, and *Epicor*[5]. Apart from those exists a huge number of vendors specialized in sole procurement software.

[1] Harley-Davidson Annual Report. 2010.

[2] October/November 1998

[3] http://www.sap.com/solutions/business-suite/erp/index.epx, 15. February 2012

[4] http://www.microsoft.com/dynamics/default.aspx, 15. February 2012

[5] http://www.epicor.com/Solutions/Pages/FullSolutionsListing.aspx, 15. February 2012

Both types of software may be distinguished whether they are web-based or client software-based. Currently a shift to software-as-a-service products (SAAS) is recognizable, which claim to be easier customizable and integrable into existing infrastructures. The goal of SAAS is to have an external company provide all necessary services and server resources with a web-based user interface, which may additionally be provided to Harley-Davidson's suppliers or customers to smooth procurement processes and achieve a higher integration of third-party vendors into organizational operations. A time and cost advantage over non-SAAS solutions is commonly expected, but not yet proven.
The finally selected software has to be easily integrable into existing infrastructure at Harley-Davidson and provide means to map the internal organizational structure as well as cover integration of sub-organizations and suppliers.

4. Organizational and operational infrastructure

Harley-Davidson's organizational structure focuses on substantial autonomy of their circles, which are dedicated to three main business objectives. The Create Demand circle (CDC) is responsible for sales and marketing issues. Development and manufacturing of heavyweight motorcycles is operated by the Produce Product Group (PPG). Finally, the Provide Support circle (PSC) covers legal, financial, human resources and communication needs.
Those organizational circles overlap to a certain extend forming the Leadership and Strategy Council, to which executives from each group belong. It's objective is to establish and maintain an "integrated vision of corporate direction"[6].
Responsibility for purchasing operations were delegated to Purchasing Operations Groups, which were directly located at Harley-Davidson's factories. Those groups belong to the Produce Product Group and are therefore strongly interwoven with development and manufacturing operations. Located at the company's headquarters a leading centralized control group (Purchasing Unit Group) was responsible for overall supply management.
In the course of the implementation of this project the local Purchasing Operations Groups are scaled-down and their planning activities consolidated at the headquarters. Therefore side independence will be cut back in favor of a centralized Enterprise Resource Planning solution. The different site's approaches how to handle procurement will be merged into a generally valid process establishing quality improvements and less labor costs.

5. The benefits

The introduction of an Enterprise Resource Planning-based for supply chain planning and purchasing within the organization of Harley-Davidson results in valuable improvements. It is part of the long-term strategy of Harley-Davidson to establish a centralized procurement systems, which helps to consolidate buying transactions and allows for greater discounts.

[6] Case Study *"Harley-Davidson Motor Company: Enterprise Software Selection"*, Harvard Business School 9-600-006, Revision January 22, 2003

Through consolidation of double structures in Harley-Davidson's organization **labour cost can be reduced by 1 860 000 EUR** within 6 years while **releasing 15% of labor capacity**. The available working time dedicated to supply management will be invested more effectively by raising the overall amount of supplier relationship-related activities **from 10% to 70%** in the long run[7].

An central resource planning software, furthermore, helps to reduce storage costs and enables for more efficient usage of warehouse capacity by reducing the storage time and improving overall management of supply chains. Speedup supply chain management is expected to have worthwhile effects on long-term budget planning and will contribute additional **660 000 EUR** to 2018's total net revenue.

Additionally, non-monetary benefits are achieve. The overall quality of supplies can be improved by intensifying the Harley-Davidson-supplier relationship and focusing on long-term cooperation. This intensification allows to obtain innovative power from major suppliers through deeper integration into Harley-Davidson's development processes, which, in the long run, will result in lower cost for recent developments.

6. Outline implementation plan

The whole project is separated into three main phases: *Develop specification, Find suitable tenders* and *Finalist selection*. A detailed activity network is attached as figure 1.

Phase 1: Develop specifications

Duration: 2 month

Create small working group of experts. Perform survey with stakeholders.

Develop project specification. Get feedback from internal stakeholders. Prepare quick provider checklists.

Phase 2: Find suitable tenders

Duration: 1 month

PR department: Send invitations to tender. Organize provider software conference and presentation.

Expert group: Create potential vendor list. Select top four potential vendors.

Phase 3: Finalist selection

Duration: 2 weeks

Expert group: Invite potential vendors for interviews. Prepare product demo test cases. Invite potential vendors for product demos. Discuss all details and prepare decision. Select final vendor.

Management & lawyers: Negotiate and sign up contract.

[7] Exhibit 5, Case Study *"Harley-Davidson Motor Company: Enterprise Software Selection"*, Harvard Business School 9-600-006, Revision January 22, 2003

7. Costs

Phase 1

Salaries for expert group.	2 month, 5 experts	180 000 EUR
Other operation expenses.		10 000 EUR

Phase 2

Salaries for expert group.	1 month, 5 experts	90 000 EUR
Salaries for PR managers.	1 month, 2 PR managers	30 000 EUR
First providers' conference	200 persons, lunch	15 000 EUR
Final presentation	100 persons, lunch	10 000 EUR
Other operation expenses.		5 000 EUR

Phase 3

Salaries for expert group	2 week, 5 experts	45 000 EUR
Software cost	According market research. Average price for ERP software.	2 000 000 EUR
Other operation expenses.		5 000 EUR

Total project costs: **2 435 000 EUR**

8. The financial case

Year	Projected number of employees	Purchasing organization operating expenses[8]	Warehouse expenses[8]	Project's net income[8]
2012	100%	12 400[9]	27 100[9]	**-2 435**
2013	95%	11 780 (-620)	26 700 (-400)	**+1 020**
2014	95%	11 780 (-620)	26 640 (-460)	**+1 080**
2015	90%	11 160 (-1 240)	26 580 (-520)	**+1 760**
2016	90%	11 160 (-1 240)	26 530 (-570)	**+1 810**
2017	85%	10 540 (-1 860)	26 480 (-620)	**+1 860**
2018	85%	10 540 (-1 860)	26 440 (-660)	+**1 900**

Table 1: Expected productivity of purchasing organization after Integration of new ERP system.

Total net profit: **6 995 000 EUR**

Payback period: **3 years**

Return of investments (ROI): $\frac{1}{7\,years} \cdot 6995 \div 2435$ =

41%

9. Risks

During implementation of the given project several risks as shown in table 2 may arise. A wrong decision concerning the procurement software vendor could lead to time and cost explosion effects, which have to be carefully avoided. Therefore intensive and reasonable considerations, based primarily on functional specification aspects, have to be done within the process of software and vendor selection. Progress and time have to be monitored and changes have to be recognized as early as possible.

[8] in thousands, EUR

[9] Harley-Davidson annual financial report (we did not have access to full financial report for this study case, so all the numbers have been thought up)

Risk	Importance	Likelihood
implementation cost explosion	M	M
low acceptance of infrastructure change among employees	H	L
low acceptance for new supply chain management among existing suppliers	M	L
difficult integration into existing organizational infrastructure	H	L
negative short-time impacts on production	H	M
required people are not available (illness, holiday, …)	M	H

Table 2: Risk evaluation for proposed project plan

Another fundamental aspect is the acceptance of the selected software among Harley-Davidson's employees. Early and continuous flow of information has to be established to guarantee smooth transition to the newly introduced infrastructure among employees and suppliers.
For avoiding short-time impacts on Harley-Davidson's ongoing production stable and reliable changes have to be performed. The existence of double structures has to be avoided.

10. Management plan

A detailed activity timeline is attached as Figure 2.

Milestone 1:

Duration: 7 week (days 1-35)

Activities:

1. Perform survey with stakeholders (days 1-10)
2. Prepare checklists for potential provider (days 11-25)
3. Analyse feedback from internal stakeholders (days 10-14)
4. Develop project specification (days 16-35)

All activities should be performed by members of expert group.
Deliverable: project specification, checklists

Milestone 2:

Duration: 4 week (days 36-55)
Activities:

1. Create potential vendor's list (day 36)
2. Send invitation to tender (days 37-39)
3. Organize and perform providers' software conference and product demo (days 40-48)
4. Prepare product demo test cases (days 40-45)
5. Select top four software vendors (days 49-55)

PR department responsible for 2) and 3) activities. Other activities should be performed by expert group. Of course member of expert group also participate on product demo and developers conference.

Deliverable: list of top 4 finalists, product demo test cases

Milestone 3:

Duration: 2 week (days 56-65)
Activities:

1. Invite potential vendors for product demos (day 56)
2. Invite potential vendors for interviews (days 56-58)
3. Discuss details and prepare decision (days 58-60)
4. Select final vendor (days 61-62)
5. Negotiate contract (days 63-64)
6. Sign up contract (day 65)

Top management and lawyers negotiate and sign up final contract, for other activities is responsible expert group's members.
Deliverable: signed contract

A Appendix: Figures

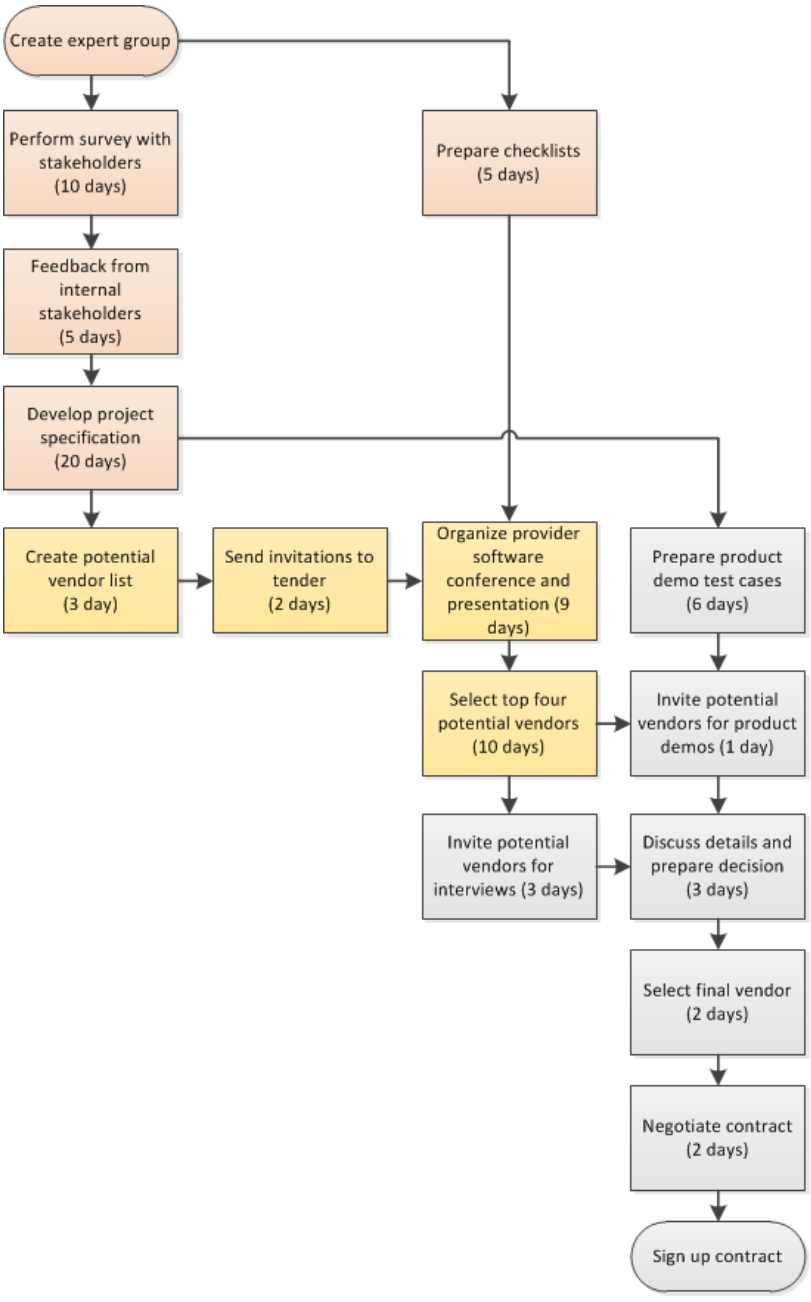

Figure 1: Project activities

	Activity	Start	End	Dur.
1.1	Perform survey with stakeholders	1	10	10
1.2	Prepare checklists	11	25	15
1.3	Feedback from stakeholders	11	15	5
1.4	Develop project specification	16	35	20
2.1	Create potential vendor's list	36	36	1
2.2	Send invitation to tender	37	39	3
2.3	Organize conference and demo	40	48	9
2.4	Prepare product demo test cases	40	45	6
2.5	Select top four software vendors	49	55	10
3.1	Invite vendors for product demos	56	56	1
3.2	Invite vendors for interviews	56	58	3
3.3	Discuss details and prepare decisior	58	60	3
3.4	Select final vendor	61	62	2
3.5	Negotiate contract	63	64	2
3.6	Sign up contract	65	65	1

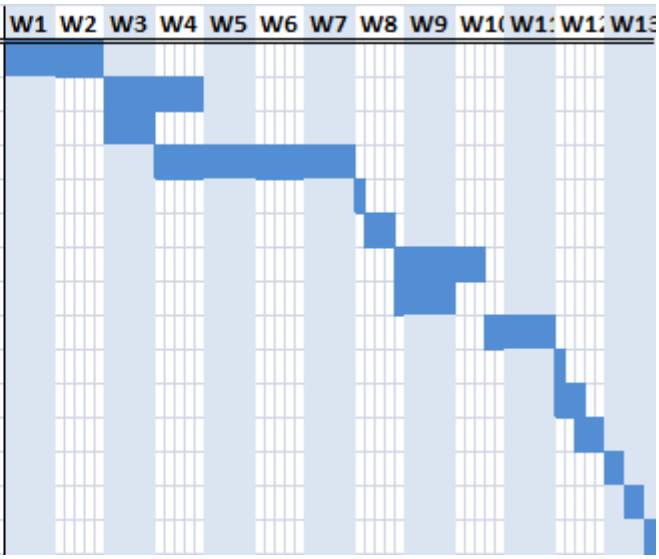

Figure 2: Project timeline