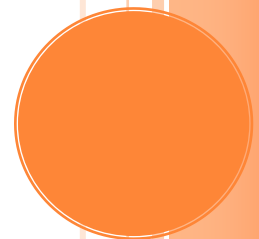


# **BPMN Course – Assessment Results**

*Julie Kenney*



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## **EXECUTIVE SUMMARY:**

### **Synopsis**

This Business Process Modeling Notation (BPMN) course is being prepared for a large life sciences organization that has grown by acquisition and mergers and has ended up with not one, but many ERP programs. They have decided at a corporate level to convert all ERP systems into one SAP implementation. While they are standardizing on the SAP platform, they must standardize and consolidate their business processes in order to configure SAP correctly. With the SAP business analysts geographically dispersed and at different levels of business analysis expertise, the way the business processes are documented can be haphazard or nonexistent. Consequently, the Corporate office has decided that a standard business process modeling technique be used across the board. The Business Process Modeling Notation (BPMN) was chosen for this purpose, but most of the SAP Business Analysts have never used it before. Since BPMN is a modeling notation with many different components and techniques, the company has further defined what the standard BPMN components and templates are to be used within the company for the SAP business analysts.

As a result an online course is being designed to train the SAP BA's to use the standard properly. The online course is meant to educate the SAP Business Analysts on what BPMN is, the basic BPMN components, and how to use them. With course development completed, an initial formative evaluation must be done on it to ensure the course is on the right track.

### **Level 1 Evaluation**

To determine the readiness of the BPMN Course, a Level 1 Evaluation was designed, created and executed. A small pool of participants was selected to contribute to this exercise. An online survey was created to collect data for the Level 1 evaluation. The participants were asked to take the BPMN course online and then answer questions using the online survey. The survey captured data in the following four areas: Overall Impression, Content, User Interface and User Interactivity.

The participants have completed their work and the results from the Level 1 evaluation have been collected.

### **Findings and Conclusions**

Overall the results from the Level 1 evaluation for the BPMN Course indicated the course was in good shape and is meeting the stated course objectives and producing positive impressions.

However, there were a few items that do need to be addressed before it can be released into production. Items such as audio timing, Internet speed and animated graphic speed need minor changes and adjustments. While these are not major issues, if left unchanged they would be distracting to the learner.

## INTRODUCTION:

This document covers the assessment findings of the BPMN Course. Within this report is an evaluation of whether the current version of the BPMN Course meets and exceeds the stated course objectives:

*“The SAP Business Analysts will be able to create and maintain standardized business process flowcharts using the Business Process Modeling Notation (BPMN).”*

Given that the Business Analysts must use the BPMN model now as the corporate standard, it is imperative that they learn the BPMN components and how to apply them quickly. As a result, an online BPMN Course has been created. However, before launching it into production, a review of the course must be done to determine its readiness.

To that end, a Level 1 Evaluation has been designed and generated as well as the results collected.

This evaluation report includes a learner analysis, the limitations and decisions made about the evaluation, the evaluation instrument used, the timeline, budget and the results. This report is generated by the project manager who also developed the BPMN course.

## BACKGROUND

BPMN is a flow-chart based notation for depicting the steps in the end to end flow of a Business Process. BPMN is an internationally accepted standard that has been published for free use and adoption by the Object Management Group (OMG) who owns the standard.

The BPMN online course will utilize Captivate as the authoring tool and the course will eventually be placed within a Learning Management Systems (LMS). For evaluation purposes the course will be standalone and published on a test website.

The BPMN course is organized by topic into modules. It is arranged such that a learner can linearly take the course, but also be able to go right to the topic they have a question about. This e-learning course utilizes audio, graphics and a case study that is clickable. Given the web-based nature of the course it is available 24 x 7. This will become more important in the future when the course is rolled out internationally.

The Level 1 assessment of the course will be conducted through an online survey. The product, SurveyMonkey, will house the survey and the results. This survey will be given out initially to those participating in the assessment program so we can improve the course prior to launching to a bigger audience.

## PURPOSE

The purpose of this assessment is to evaluate and improve the online BPMN course that is being designed to train the SAP Business Analysts (BA's) to use the standard properly.

The online course is meant to educate the SAP Business Analysts on what BPMN is, the basic different BPMN components, and how to use them.

Since this course has just been developed it is important to do an initial formative evaluation on it to ensure we are the right track. To that end a Level 1 evaluation has been designed and distributed to gather information concerning the following:

- **Overall Course:** Does this course meet the stated objectives?
- **Contents:** Do the materials convey the BPMN components clearly and easily?
- **User Interface:** Does the User Interface help communicate the materials?
- **User Interaction:** Is there enough interaction between the learner and the course to keep them interested?

From the feedback that is gained from the evaluation, further improvements can be made in the course before launching it to a wider audience.

After that we can determine whether this course is ready to be launched to the SAP BA's at the Corporate office for further testing.

## AUDIENCE

### Evaluators

The Project Manager is the main resource on the project. There is a “Pilot Group” that consists of one manager and 3 SAP BA’s. The Project Manager has created all of the assessment materials (as well as the course).

The Pilot Group was tasked with taking the course and filling out the Evaluation Sheet.

After the data is collected, a meeting will be held to go over the feedback that was collected via Evaluation Sheets. Agreed upon changes will then be merged back into the course to improve it.

### Pilot SAP BA’s

In general, the business analysts do have flowcharting experience, but are not knowledgeable about modeling techniques. There is some resistance in standardizing their diagrams using BPMN, but when they realize it is not a big change to what they are doing and that it will be directly related to their duties, it is expected that the resistance will lessen.

The overall impression is that the training must be efficient and interactive to keep the learners engaged. Use of real-world SAP examples would be ideal. Explanation of why this training would benefit them is important.

Students need to be proficient in the following entry behaviors to successfully perform the instructional goal of creating and maintaining BPMN diagrams for business processes that are implemented within the SAP application:

- SAP Business Analysts are expected to be computer literate to the extent that they know how to operate MS Office applications as well as print out documents.
- SAP Business Analysts are expected to understand and practice good business analysis skills, such as interviewing SME’s.
- SAP Business Analysts are expected to know how to use and operate the Visio application, which is what they will use to generate the BPMN diagrams.

## Secondary Audience

The secondary audience is the wider community of SAP BA's who are expected to take the BPMN course.

In general the secondary audience has the following characteristics:

Information Categories	Learner Characteristics
Prior Knowledge of Topic Area	<p>Learners have a general knowledge of flowcharting concepts and software.</p> <p>However, some do not know how to do this successfully and have picked up some negative habits.</p>
Attitudes toward content	<p>There is some resistance by the learners to use a consistent modeling approach. Learners believe this is one more thing for them to do and do not currently see the benefit of using BPMN.</p>
Attitudes toward potential delivery system	<p>Learners are comfortable with taking online training. It enables them to not only take it when their schedule allows, but they can also go back and use it as a reference tool.</p>
Motivation for instruction	<p>This is directly related to the SAP business analyst's duties. They will have to use BPMN model for all of their business process diagrams. Their management will be reviewing their BPMN diagrams for accuracy.</p>
Educational and ability levels	<p>Learner's educational levels are such that most have college degrees.</p> <p>Learners have heterogeneity when it comes to their SAP knowledge.</p> <p>However, some of the business analysts have differing levels of business analysis training and experience</p>
General Learning preferences	<p>Learners are comfortable with a variety of learning approaches. However, most prefer online learning so that they can fit it into their busy schedules.</p>
Attitudes toward training organization	<p>Learners are neutral toward the training organization. They realize that the mandate is coming from management and are able to separate any feelings they have for them from the training organization.</p>
General Group characteristics	<p>The learners are not entirely heterogeneous in their business analysis experience.</p> <p>Most do not have any experience with BPMN.</p> <p>There will be about 30-40 learners who will participate in this training.</p> <p>The students range from 25 – 50 years of age.</p>

# LIMITATIONS

## Interpretation

The survey was designed to be as objective as possible with each survey answer divided into ranges. This helped to prevent a more subjective interpretation of the data collected.

## Generalizability

While the sample size is 10-13% of the overall population of the SAP BA's, the survey respondents should represent a cross-section of the typical learner audience. The BA's were also selected for their location with two at corporate headquarters and the other two spread across the country. While a bigger sample would be more helpful, the whole idea of this assessment was to slowly introduce this course to a small pilot group to ensure there were no glaring mistakes or holes in the course.

## Validity

There was a 100% response rate for the pilot group and should lend credibility to the data collected. The survey was designed to measure certain aspects of the BPMN Course: Overall Impression, Content, User Interface and User Interaction. The responses/data were closely grouped and the majority of the times were in agreement.

## Reliability

The survey responses were anonymous, which should have encouraged direct and open responses. Additionally, the data collected was done so using the same software and survey questions for all respondents. With all respondents being tech-savvy, there is no reason to believe the instrument itself would have swayed the answers.

Additionally, all of the respondents had the same timeframe and amount of time as well as accessibility to complete the survey.



## DECISIONS

There are a couple of key decisions that can be made from this evaluation:

- **Course readiness:** This evaluation will help to determine whether this course is ready to be launched to a larger audience.
- **LMS Placement:** This assessment can help us to determine whether this course is ready to be placed within the LMS.

## QUESTIONS

Some of the key questions that are expected to be answered by this evaluation are:

- How can we improve the course?
- In what areas does the course need improvement?
- What content is not clear?
- Is performance an issue?
- Is there enough interaction within the course?

## METHODS

The BPMN course was placed on a test website with a link called [BPMN Course](#).

In parallel, the Level 1 Evaluation was created. For level 1, the main measuring instrument is an online survey. The survey was made available using SurveyMonkey. An email was sent out by the Director of IT to the Pilot Group explaining what the evaluation was for and the importance of their participation in the BPMN Course evaluation. The email also said they would be receiving another message with a link to the course and the survey.

Then a message from SurveyMonkey was sent out to the participants. It gave them the course link, directions on how to use the course and then directions to take the survey immediately afterwards. They had 1 week to complete both the course and the survey.

With the surveys completed, the participants were thanked and the results tallied. The results can be viewed in the **Results** section.

Next Steps: A meeting will be held to go over the feedback that was collected via the evaluation. Agreed upon changes will be merged back into the course to improve it.

## SAMPLE

The sample for this evaluation consisted of four people, called the “Pilot Group”. Within the “Pilot Group” is one manager and three SAP BA’s.

With approximately 30-40 SAP BA’s worldwide, a sample of four is approximately 13% of the population and would represent the norm for a BA. The BA’s were also selected for their location with two at corporate headquarters and the other two spread across the country. This would help to give us an idea of Internet performance. Additionally, all of the BA’s are English speaking, but for two of them English is not their first language.

All participants are college educated and have been with the company for more than two years. The average age of the participant is 40 years old. All participants do not know the BPMN model.

## INSTRUMENTATION

Participants were notified via email regarding the purpose of this survey. Demographics were not collected in the survey as the group is small enough and that anonymity would encourage more truthful feedback.

The Survey Instrument is included for review (see Appendix A). The survey was designed to capture feedback in the following areas: Overall Impressions, Content, User Interface and User Interaction. Each question gives the participant the opportunity to expand their feedback.

The survey was created and implemented using SurveyMonkey software. This produces an online survey that also collects and stores the results. The results were tallied using the SurveyMonkey tools.

The BPMN course was created using Captivate and was accessible via a test website within the company’s firewall. Participants were sent the link to the course in order to access it. Once the participant clicked on the link they were able to freely navigate through the course. They were told they need their speakers turned on during the course in order to hear the associated audio.

## LOGISTICS

The instruments were designed, created and implemented by the Project Manager of the BPMN course project. The Director of IT emailed out the initial invitation/course evaluation request.

Once the results were in, the Project Manager consolidated the results and will present them to a team that consists of the Project Manager, the Director of IT and the Manager of the SAP BA’s. Together the findings will be reviewed and improvements will be agreed upon to be carried out prior to the course being launched.

## TIMELINE

A timeline for the project was drafted as shown below. This evaluation did meet the schedule constraints.

Activity Due Date	Activity Description
October 31, 2011	Design survey for the course evaluation and review
November 1, 2011	Recruit participants for evaluation
November 9 <sup>th</sup> , 2011	Complete first version of BPMN Course and place on website
November 10, 2011	Creation of SurveyMonkey BPMN survey
November 11, 2011	Email from IT Director to participants
November 18, 2011	Participants finish BPMN evaluation/survey
November 21, 2011	Results collect and analyzed
December 1, 2011	Review meeting to be held to examine results and make improvement decisions.

## BUDGET

The following budget table outlines the costs associated with this evaluation effort:

Item	Costs
Creation of survey and implementation: PM – 4 hours	4 hours = \$400
Participant's Time: 2 hours each	4 * 2 = 8 hours \$650
Collection of Results: PM – 4 hours	4 hours = \$400
Analysis of Results: PM 4 hours	4 hours = \$400
Review Meeting: 1 hour – 3 people	3 hours of Management time = \$600
SurveyMonkey Software	\$0
<b>Total Cost:</b>	<b>\$2450</b>

# RESULTS

The following charts are the results of the BPMN Level 1 Survey. There were ten questions in the survey, see **Appendix A** for more details.

All four of the participants responded and their responses are considered reliable and thoughtful. Additional Comment boxes were also available after each question. Some of those comments include items such as: high marks for navigation, some audio refinements, and Internet speed issues. These will be presented in more detail in the **Conclusions** section.

**Question 1 Results:** The results show a strong agreement that the BPMN course met the course objectives, with 100% scoring agreement to strong agreement.

1. Was the course content consistent with the course objectives?		Create Chart	Download
		Response Percent	Response Count
a. Strongly disagree		0.0%	0
b. Disagree		0.0%	0
c. Neutral		0.0%	0
d. Agree		25.0%	1
e. Strongly agree		75.0%	3
Additional Comments			1
<a href="#">Show Responses</a>			

**Question 2 Results:** The results show a strong agreement that the BPMN course was organized and easy to follow, with 100% scoring agreement to strong agreement.

2. The course materials are organized in an easy to understand manner		Create Chart	Download
		Response Percent	Response Count
a. Strongly disagree		0.0%	0
b. Disagree		0.0%	0
c. Neutral		0.0%	0
d. Agree		25.0%	1
e. Strongly agree		75.0%	3
Additional Comments			1
<a href="#">Show Responses</a>			

**Question 3 Results:** The results show a strong agreement that the BPMN course has good examples to demonstrate BPMN concepts, with 100% scoring agreement to strong agreement.

3. The examples shown in the course are good		Create Chart	Download
		Response Percent	Response Count
a. Strongly agree, no changes are needed		50.0%	2
b. Agree, maybe some minor tweaks		50.0%	2
c. Neutral		0.0%	0
d. Disagree, some changes are needed		0.0%	0
e. Strongly disagree, we need to rework the examples		0.0%	0
Additional Comments			2
<a href="#">Show Responses</a>			

**Question 4 Results:** With 100% scoring agreement that the user interface was easy to navigate. The reasons it did not score higher was due to an Internet performance glitch and a couple of Case Study buttons that need to be refined.

4. The user interface was easy to navigate		Create Chart	Download
		Response Percent	Response Count
a. Strongly disagree, I could not figure out where to go without help		0.0%	0
b. Disagree, some initial issues that were eventually worked out with help		0.0%	0
c. Neutral		0.0%	0
d. Agree, some initial small issues but quickly worked out		100.0%	4
e. Strongly agree, intuitive and easy		0.0%	0
Additional Comments			3
<a href="#">Show Responses</a>			

**Question 5 Results:** The results for the graphics scored on the “Useful” or higher end of the range. One issue here was the animated graphics need to be re-synced in some cases because the frame speed is off slightly. The other issue is that the house example in the “What is Process Modeling?” was not in keeping with the other examples.

5. The graphics used in the course content were:						Create Chart	Download
	Entertaining and useful	Useful	Boring	Distracting and boring	Rating Average	Response Count	
Graphics Rating	50.0% (2)	50.0% (2)	0.0% (0)	0.0% (0)	1.50	4	
Additional Comments						<a href="#">Show Responses</a>	2

**Question 6 Results:** The score for the audio rating was high with a couple of reports that audio was cut off prematurely a few times.

6. The audio used in the BPMN course:						Create Chart	Download
	Clear and helpful	Helpful	Distracting	Annoying and distracting	Rating Average	Response Count	
Audio Rating	75.0% (3)	25.0% (1)	0.0% (0)	0.0% (0)	1.25	4	
Additional Comments						<a href="#">Show Responses</a>	2

**Question 7 Results:** The results show a strong agreement that the BPMN course had the right amount of multimedia mixed into the course, with 100% scoring agreement to strong agreement. Improvements here include the audio issue (above) as well as some missing audio in the Case Study area.

7. The multimedia (audio, visual and animation) materials in the course are the right amount.		Create Chart	Download
		Response Percent	Response Count
a. Strongly agree, no changes are needed		25.0%	1
b. Agree, maybe some minor tweaks		75.0%	3
c. Neutral		0.0%	0
d. Disagree, some changes are needed		0.0%	0
e. Strongly disagree, we need to rework the examples		0.0%	0
Additional Comments <a href="#">Show Responses</a>			1

**Question 8 Results:** The results show that 100% of the respondents thought the pace of the course was about right.

8. The pace of the course was:		Create Chart	Download
		Response Percent	Response Count
a. Much too Slow		0.0%	0
b. A Bit too Slow		0.0%	0
c. About Right		100.0%	4
d. A Bit too Fast		0.0%	0
e. Much too Fast		0.0%	0
Additional Comments <a href="#">Show Responses</a>			2

**Question 9 Results:** The data shows a mixed result with Internet speed/performance.

9. The course demonstrated sufficient Internet speed.			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
a. Much too Slow		0.0%	0	
b. A Bit too Slow		50.0%	2	
c. About Right		50.0%	2	
d. It was Fast		0.0%	0	
			Additional Comments	2
			<a href="#">Show Responses</a>	

**Question 10 Results:** This was an open response question – all responses are listed below. Audio and Internet speed were the major issues stated here.

10. Which parts of the course do you think need the most improvement? Why? How?		<a href="#">Download</a>
		Response Count
<a href="#">Hide Responses</a>		4

There was one part in the case studies where the audio dropped out randomly at the beginning and the animation of the guy reading in the intro looked a little messed up.
I might start the overview with the finished BPMN diagram as an example of what these things look like, or maybe a simplified version of it with a short overview - "Here is a BPMN example of a person getting a license to drive..."
The audio associated with some of the module cut off a bit too soon. Also, the audio for the Case Study section was missing.
I think some of the areas of audio transitioning from slide to slide. Definitely the areas mentioned above where the audio did not work. I think overall the course was well laid out, the flow worked well and the real world scenarios were great. The only suggestion I have is to include within the case study section, another example of a swim lane or process flow related to the Business Analysts taking the course so they can also relate the content to their work environment. This is not needed, just a suggestion.



## CONCLUSIONS

While the BPMN Course overall received good responses, it is not yet ready to be launched. The overall approach and content were validated by the participants. Additionally, navigation through the course was deemed easy to use and intuitive. The pace of the course was appropriate. However, there are some concerns with the audio and Internet performance that need to be addressed and fixed first.

Based on the results from the survey, the following recommendations can be made to improve the BPMN Course prior to launching it to a wider audience:

1. While the content received high marks, there are a few inconsistencies in the SwimLanes module that need correction.
2. Review audio throughout all modules. In some cases the audio is getting cut off prematurely and needs to be fixed. In the Case Study section, some additional audio needs to be recorded for consistency.
3. Review animated graphics and adjust frame speed where necessary and take out the License animation as it was too distracting.
4. Review house example in the “What is Process Modeling?” section
5. Experiment with Internet speed and performance of the course. Ensure that we compress the Captivate files as much as possible.

So in the major topic areas of the survey, ***Overall Impression, Content, User Interface and User Interaction***, only some minor tweaks in the User Interface and User Interaction components are needed.

There was an additional decision to be made from this exercise and that was whether to place the course in the LMS. After testing the Internet speed with the test website, it is recommended that the course be placed within the LMS after the other changes are made. This will help to determine whether it was the test website performance that was in fact the issue. Additionally, it is good practice to test out the performance on the LMS with the BPMN course prior to launching it.

Once these changes have been completed, the original participants will be asked to review the course again. If they agree that improvements have been made in the areas discussed above, then plans for a wider launched will be discussed.

## APPENDIX A

### BPMN Course - Level 1 Survey

The purpose of this survey is to help us evaluate the BPMN course before we release it to the Business Analysts. Please answer as truthfully and thoroughly as possible so we can improve the course. Thank you!

The objectives of this course are: The SAP Business Analysts will be able to create and maintain standardized business process flowcharts using the Business Process Modeling Notation (BPMN).

#### 1. Was the course content consistent with the course objectives?

- a. Strongly disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly agree

Additional Comments

## 2. The course materials are organized in an easy to understand manner

- a. Strongly disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly agree

Additional Comments

A rectangular text input field with a light gray border. On the right side, there is a vertical scroll bar with a small handle. At the bottom of the field, there are four small navigation buttons: a left arrow, a square, a right arrow, and another square.

## 3. The examples shown in the course are good

- a. Strongly agree, no changes are needed
- b. Agree, maybe some minor tweaks
- c. Neutral
- d. Disagree, some changes are needed
- e. Strongly disagree, we need to rework the examples

Additional Comments

#### 4. The user interface was easy to navigate

- a. Strongly disagree, I could not figure out where to go without help
- b. Disagree, some initial issues that were eventually worked out with help
- c. Neutral
- d. Agree, some initial small issues but quickly worked out
- e. Strongly agree, intuitive and easy

Additional Comments

#### 5. The graphics used in the course content were:

- |                        | <b>Entertaining and useful</b>                | <b>Useful</b>                | <b>Boring</b>                | <b>Distracting and boring</b>                |
|------------------------|---|------------------------------|------------------------------|--|
| <b>Graphics Rating</b> | <input type="radio"/> Entertaining and useful | <input type="radio"/> Useful | <input type="radio"/> Boring | <input type="radio"/> Distracting and boring |

Additional Comments



## 6. The audio used in the BPMN course:

	<b>Clear and helpful</b>	<b>Helpful</b>	<b>Distracting</b>	<b>Annoying and distracting</b>
<b>Audio Rating</b>	<input type="radio"/> Clear and helpful	<input type="radio"/> Helpful	<input type="radio"/> Distracting	<input type="radio"/> Annoying and distracting
<b>Additional Comments</b>	<input type="text"/>			

## 7. The multimedia (audio, visual and animation) materials in the course are the right amount.

- a. Strongly agree, no changes are needed
- b. Agree, maybe some minor tweaks
- c. Neutral
- d. Disagree, some changes are needed
- e. Strongly disagree, we need to rework the examples

**Additional Comments**

**8. The pace of the course was:**

- a. Much too Slow
- b. A Bit too Slow
- c. About Right
- d. A Bit too Fast
- e. Much too Fast

Additional Comments

**9. The course demonstrated sufficient Internet speed.**

- a. Much too Slow
- b. A Bit too Slow
- c. About Right
- d. It was Fast

Additional Comments

**10. Which parts of the course do you think need the most improvement? Why? How?**

A rectangular text input field with a light gray background and a thin black border. On the right side, there are two small square buttons with upward and downward arrows. On the bottom left, there is a small square button with a left-pointing arrow, and on the bottom right, there is a small square button with a right-pointing arrow. The bottom portion of the field has a light gray grid pattern.