



Class Notes: BPM Research and Education

Michael zur Muehlen

Director, Center of Excellence in Business Process Innovation
Howe School of Technology Management
Stevens Institute of Technology

Michael.zurMuehlen@stevens.edu
<http://howe.stevens.edu/BPM>

Service Processes: The Customer at the Center?

“One whose blood-pressure rises dangerously upon encountering ‘red tape’ in public administration can with therapeutic benefit pursue several lines of thought. [...] After all, one man’s ‘red tape’ is another man’s system. Only when all the facts are known can condemnation be fairly entered and a change be recommended that is likely to be beneficial.”

Waldo, Dwight, “Government by Procedure – How to Live among Procedures,” in Fritz Morstein Marx (ed.): *Elements of Public Administration*, Prentice Hall, New York, 1946, p. 398-399

In Business School, my marketing professor gave a clear definition of what differentiates a service business from a product business: In a service business the customer becomes part of the service delivery and thus part of the process. The customer experience is thus an inseparable part of the overall service delivered. Government agencies are, by and large, service businesses. Many of us who apply for a building permit, birth certificate, marriage license, or another of the thousands of products provided by similar agencies typically dread the encounter. Do I have all the necessary documents that will be requested? How many counters will I be sent to? Will the document be free of errors? And why do I need these permits in the first place?

The view from the outside

A public administration process I experienced firsthand was the correction of a birth certificate. My daughter was born in Manhattan, and the City of New York mailed the birth certificate to our home a few weeks later. When I looked at it, I found that our last name had been mistakenly capitalized¹. Not to worry – the City keeps a well-organized web site, and I easily found the necessary correction form (PDF) and instructions. The form was filled out quickly, documents attached, a legal-size, self-addressed, stamped envelope enclosed (that took the longest time), and everything was sent to the Department of Health and Mental Hygiene.

Just three weeks later we received a thick envelope (not ours) with all our original materials (sans the pre-paid envelope). Apparently the photo identification provided did not suffice; a passport copy was requested. No problem. After hunting down and preparing another legal-size, self-addressed, stamped envelope, we resubmitted the updated package. Three weeks later we received a thick envelope (not ours) with all our materials again (again without the pre-paid envelope). Apparently the passport page we had copied did not have the expiration date of the passport on it. No problem. By now I knew a good supplier of legal-size envelopes, and the updated package was sent back within a day. Three weeks later we received a thick envelope (not ours) with all materials (sans the pre-paid envelope). Now this was beginning to look like a process... Apparently the notarized copy of the marriage certificate we had sent was not what the

¹ Don’t even ask about the issues surrounding a last name consisting of two separated words... I embrace technology wholeheartedly, but it is somewhat disturbing that a spelling that has been established over 250 years is changed by a programmer who decides that a space is an illegal character in the last name field. It reminds me of immigrants undergoing “suggested” name changes at Ellis Island.

department had in mind – the original was needed.² No Problem. Another legal envelope and postage were procured, and we were set to go. Three weeks later... (Fill in the blanks). This time somebody had actually read through the change form and noted that we had requested spelling changes for the last name of our daughter, her mother, and myself. The employee noted that the birth certificate only lists the maiden name of the mother (which did not require fixing), failing to note that the mailing address (on the certificate) listed her married name. Thinking ahead, the employee included a blank form and recommended we start over.

VR 172 (Rev. 1/03) DEPARTMENT OF HEALTH AND MENTAL HYGIENE • OFFICE OF VITAL RECORDS

Reference No. _____

The City of New York

Application for the Correction of a Birth Certificate

Step 1 Read these and all instructions completely and follow them carefully.

For information on birth or death certificates: (212) 788-4520

- All persons requesting changes to a birth record in person must present a current, signed, photo identification such as a driver's license. If applying by mail you must submit a photocopy of your identification. Without identification your application will be rejected.
- Only the person named on the certificate, if over 18 years of age, and the parents or guardians whose names appear on the certificate, can apply for a correction.
- Use BLACK or BLUE INK ONLY. (Please Print)

Step 2 Complete information about you and your mailing address.

Your Name
 First Name _____ Middle Name _____ Last Name _____

Number and Street Address
 Mailing Address: _____ Apartment _____
 City _____ State _____ Zip Code _____

Telephone Home _____ Area Code _____ Telephone Number _____
 Day _____ Area Code _____ Telephone Number _____

Marital Status
 Single Separated Married
 Divorced Widowed

Step 3 Complete birth certificate information.

Name on Birth Certificate as it now appears
 First Name _____ Middle Name _____ Last Name _____

Birth Certificate Number _____ Sex _____ Date of Birth _____
 M / F Month / Day / Year

Place of Birth

Hospital – or if born at home, full address

For DOHMH Use Only

Hospital Code _____ Dates Received 1. _____ 2. _____ 3. _____

Table 1. Form used to initiate a public process

By this time my wife was considering changing her name back to her maiden name, but my German self got the better of me. I was going to go through with this, just as a matter of principle. So, form filled out, documents attached, and new legal envelope procured, off we went. Finally, two weeks later, we received the corrected certificate. Was it correct, you ask? Sure – someone had crossed out the capital Z, inserted a lower case z by hand and stamped “correction approved” on the certificate. We will never know if the change ever made it into the computer systems of New York City. Oh, and we also received a letter of apology, stating that the delays in our case were due to the fact that the City of New York is beginning to automate certain processes...

But wait...

The above case is a teachable moment for those interested in public-facing processes. And while it may seem like a prime example of red tape, this case is more intricate than it seems at first glance.

² As an aside – said marriage certificate was issued by the City of New York.

First: The above transaction (3 minutes value-added time compared to 3 months cycle time) worked as designed. The design followed the manufacturing model of “complete kit concept.”³ This concept states that work should not begin until all pieces necessary to complete the job are available. Clearly, the customer (I) had submitted an incomplete package – the instructions spelled out which documents to include. Now, some instructions were on the NYC website and others on the actual PDF form, but, in defense of the city agency, they tried, in the elaborate instructions, to explain clearly the difference between certified copies and notarized copies – something I ran afoul of. Which leads me to the first bit of advice for public process designers:

- *If your process design follows the complete kit concept, provide complete and easy-to-follow instructions for those who will initiate the process.*

In manufacturing, the complete kit concept makes sense because of the tooling and retooling cost in case of production switches, as well as the number of batch process steps (as opposed to the transactional character of most workflows). What the complete kit concept does not spell out is how to determine whether the material submitted to begin a process is necessary and sufficient to complete this process. The literature suggests a gatekeeper who decides which cases get released to the “office floor,” and which are held back for completion. In the above case, administrators used a checklist to determine whether an application was complete. As soon as the first failure was detected, the failure was noted, a form letter was printed, and the package was sent back. If we were to automate this process, we might use a rules engine to determine whether a case is complete and admissible (keeping in mind the variety of possible document combinations submitted). As soon as the gatekeeper detected an error, the checking activity was aborted (something we can model very well using BPMN, by the way), and the return process was initiated. This meant that the submitted package might have other (undiscovered) defects that might not be brought to the attention of the client. Thus, my second bit of advice:

- *The complete kit approach goes both ways: If a process cannot start, the client should be notified of all defects that could be reasonably identified at the onset of the process.*

In a face-to-face transaction, it might be acceptable to provide item-by-item feedback because the client may be able to produce the missing information immediately. But if they cannot, or if we are faced with a mail-centric process, the transport time added through the postal system adds significant lag to the client notification and the re-submittal. In our case, the three-week turnaround time was significantly longer than the overall transaction time usually required to complete the correction inside the agency. However, from the agency’s perspective, this turnaround time happened outside of their process boundary – thus, it was the customer’s problem, not theirs. This brings me to my third bit of advice:

- *When thinking about your process boundaries, consider the difference between a simple process initiation and a roundtrip to revise and resubmit a request.*

Ultimately, in a service process, the customer’s time should be treated with the same respect as the administrator’s time. And process designs should be routinely evaluated by “mystery shoppers.” As Dwight Waldo wrote in 1946:

“Procedures must be installed. Even the best-written materials do not suffice of themselves. Educational campaigns must be undertaken, incentives offered, sanctions devised, methods for apprehending violators worked out, test runs made to discover ‘bugs,’ and follow-up inspections planned. All possible devices for breaking old habits and creating new ones must be used.”

³ For an introduction, see, e.g., Boaz Ronen, “The Complete Kit Concept,” *International Journal of Production Research*, Volume 30, Issue 10 October 1992, pages 2457 – 2466.

In service processes, customers play a role as process participants. That means you will have to educate your customers about the policies and procedures the same way you would educate your workforce.

Happy Ending?

So how did New York City fare in the end? Quite well, actually. My daughter is 19 months old now, and we are still waiting for the registrar's office in Berlin to issue a birth certificate for a German born abroad. The last email I received from them asked us to explain why my wife's identity documents show her last name as "zur Muehlen," while mine in German is spelled "zur Mühlen." They noticed that right away. It only took them a year to get the message to me. I'm sure it's part of somebody's system.

Michael zur Muehlen is Assistant Professor of Information Systems at Stevens Institute of Technology in Hoboken, NJ, where he directs the Center of Excellence in Business Process Innovation and coordinates the Graduate Program in Business Process Management and Service Innovation. Michael is a fellow of the Workflow Management Coalition and chairs the WfMC working group, "Management and Audit." SAP Research, the US Army, the Australian Research Council, and various companies have funded his research, which he has presented in more than 20 countries. He is the author of a book on workflow-based process controlling, numerous journal articles, book chapters, conference and working papers on workflow and process management. Michael regularly advises corporations and BPM vendors on strategic and technology issues surrounding Business Process Management. He holds a PhD and an MS in Information Systems from the University of Muenster, Germany. He blogs at <http://www.bpm-research.com>