

Business Analysis Maureen McVey

Using Traditional Tools to Define Process based in Knowledge Work

My most recent project involves mapping processes for the development of an exam certifying doctors. The entire process is based in knowledge work. Unlike transactional or support processes, where metrics and productivity drive the outcomes, I had to suspend my inclination to assess the current processes based on traditional measures – number of widgets or transactions processed. I stepped back to determine the best approach and tools to engage stakeholders and to identify the critical success factors that would lead to a quality product.

One of my favorite tools is the SIPOC. At first I thought this wouldn't work, but like any product, identifying what is critical to quality still holds true for knowledge work. Let's break it down.

Knowledge Work

"Knowledge work can be differentiated from other forms of work by its emphasis on "non-routine" problem solving that requires a combination of convergent, divergent and creative thinking."

"...all workers involved in the chain of producing and distributing knowledge products", Mosco and McKercher (2007)

SIPOC

SIPOC is a Six Sigma methodology traditionally used in manufacturing, most notably by Ford Motor Company to save \$300 million. SIPOC stands for Supplier, Inputs, Process, Output, and Customer.

SIPOC is used is at the Measure phase of the Six Sigma DMAIC (Define, Measure, Analyze, Improve, Control) methodology. It is used to define the current process and to identify problems related to performance, and what is important to the 'customer'. A SIPOC exercise with stakeholders contributes to scope and detailed process maps, and data collection plans. The tools used include: process flowcharts, benchmarking, and voice of the customer (VOC)

Working with stakeholders, the approach I used was to start with defining the "customers" and their expectations.

Customer:

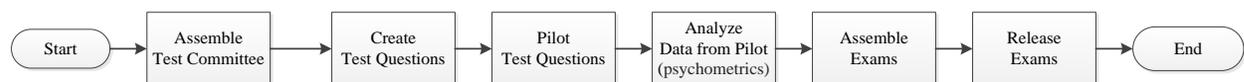
- The first obvious customer is the medical student. They want to pass the exam in order to qualify for an internship, but the certification body can't write an exam to ensure someone passes, it can only ensure everyone has a fair chance at passing, so the medical student isn't the focus of the process.
- The certifying organization; ensures a fair, relevant examination that qualifies a medical student to begin his/her medical career as an intern. Exam delivery must protect against cheating.
- Hospitals and doctors need qualified medical interns to ensure accurate, quality patient care.
- The Patient needs accurate diagnosis and appropriate treatments.

Next, we looked at the **output** of the process which is a relevant fair exam that is defensible by the certifying organization.

The **suppliers** of inputs are qualified doctors, psychometricians and the process owner exam managers.

The **inputs** to the process include: an examination blueprint, examination standards, knowledge of medical practices in the areas outlined in the blueprint and data resulting from exam question pilots.

The process includes; assemble an examination committee, write exam questions (distractors and correct answers), pilot exam, analyze results (psychometrics), assemble exams and release exams.

**Outputs: A fair exam that is defensible including the reasons for correct answers and distractor questions.**

During the SIPOC exercise the following questions were identified by the stakeholders to ensure the process resulted in a focus on reducing risks to key customers-- the certifying body, hospitals and doctors, and patients.

1. Does the exam align to recognized standards?
2. Do the contributors (Doctors) have the requisite skills to create questions that are unambiguous, relevant questions and to defend the correct answer and distractor questions?
3. Are there documented, validated contributor qualification criteria that are used to vet the contributors?
4. Do the doctor's qualifications align with the standard blueprint for the exam?
5. Are the doctors trained to apply the criteria needed to produce exam questions that are relevant, fair, and unambiguous?
6. Are there documented, defensible reasons why the answer is either correct or incorrect?
7. Are risks assessed at each step of the process?

When you are faced with analyzing knowledge based processes, don't abandon the tools you have used for transactional and manufacturing processes, just use them differently.

References:

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