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Responsible QA – committing to impact

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Paper proposal form

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Short bio (150 words max):

Philipp Keller, MA is part of in the Evaluation and Quality Enhancement unit at the WU (Vienna University of Economics and Business). Philipp Keller has earned a degree in political science from the Paris Lodron University of Salzburg where he additionally achieved profound methodological knowledge and skills in statistics and data analysis. He is a trained expert in graphical visualization. His Master Thesis was on the proliferation of Human Rights in international trade agreements.

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Proposal

Title: Optimizing impact of IQA toolkits: an analytical framework for an impact oriented IQA portfolio

Abstract (150 words max):
We developed an analytic framework to strategically plan IQA communication, in order to increase the overall impact of IQA-output. Our paper considers traps and obstacles in communication. Drawing from the experience of Florence Nightingale this paper develops a procedure that enables IQA units to optimize the impact of their IQA tools. The framework breaks down the process of planning and communicating IQA measures in four steps. These steps help to reflect relevant procedural steps from defining a clear objective via methodological questions, the definition of the relevant stakeholder groups, their communities/networks, and the way to contact them and communicate with them properly. Applying this framework thoroughly to all relevant IQA issues helps to optimize the "portfolio" of measures by prioritizing the objectives of an IQA unit.

The paper is based on: practice

Has this paper previously been published/presented elsewhere? NO

Text of paper (3000 words max):

Introduction

Related to the highly relevant debate concerning data, information and impact, information that reaches the addressee is information that could make a difference. In this logic, the terms "data" and "information" themselves already illustrate relevant ramifications for communication. Charles Meadow and Weijing Yuan hold that data becomes information when it is found meaningful by an addressee, and is incorporated in his or her collective knowledge to make a decision or understand future messages (Meadow and Yuan, 1997). Following this definition, "information" is created from aggregating evidence ("data") and merely its processing by the addressee could generate "impact" (Meadow and Yuan, 1997).

Such a definition of information already suggests a strong focus on its purpose. No information "informs" just for its own sake. *When* "data" will be meaningful, crucially depends on the recipient (Meadow and Yuan 1997: 701). Dervin contends, *"communication cannot be conceptualized as transmission"* but rather has to be thought of in terms of a dialogue (1981: 72). Thus, data must be useful for the decision-making process of the stakeholder who is receiving it.

In this paper, we present an analytical framework that helps IQA units to (a) increase the impact of their IQA-methods (i.e. course evaluation) (where intended) and (b) strategically diversify the portfolio of IQA-methods, based on the underlying objective, the target audience and the desired degree of impact.

The first section gives an overview of three important traps and obstacles in communicating IQA related topics. Then, we analyze the historical case of Florence Nightingale, where we distinguish success criteria for dealing with these traps and obstacles. The third section applies these success factors to IQA settings by incorporating them into our analytical framework.

Traps and obstacles in communicating

We have to deal with three issues when communicating with stakeholders in order to achieve impact.

1. Availability of relevant data
2. Lack of attention
3. Lack of comprehension

Availability of relevant data

Stakeholders in Higher Educational Institutions (HEI) may not have access to relevant information. Oftentimes, this happens because of legal issues, because it is hidden in a mass of disaggregated data or does not exist at all.

In general, we are not well equipped to deal with too much data. A classical argument of psychology states that the number of objects an average human can hold in working memory is seven (plus or minus two) (Miller 1956). The average "channel capacity" are 6.5 distinguishable categories, one standard deviation including 4 to 10 and the total range 3 to 15 categories. Miller found this remarkably similar over a range of different variables (such as distinguishing pitch, loudness, taste, various visual judgements, sensation …).

"There seems to be some limitation built into us either by learning or by the design of our nervous systems, a limit that keeps our channel capacities in this general range (Miller 1956)."

Lack of attention

Stakeholders do not always perceive data as (relevant) information for their decisions. IQA units therefore have to plan to inform their relevant stakeholders strategically, not triggered by their relevance structures, but by the perceived relevance structures of the addressees/consumers of their data/information (Meadow and Yuan: 1997).

Lack of comprehension

Even if we have captured the attention of a stakeholder, he or she may not fully comprehend our data, e.g. due to statistical illiteracy (Gigerenzer et al. 2007; Shah and Freedman 2011; Peters et al. 2006). The level of knowledge about a certain subject and the capacity to read statistical information (also aggregated in graphs) will vary among stakeholders (Galesic and Garcia-Retamero 2011; Lipkus, Samsa and Rimer 2001; Levin et al. 2002). Even when dealing with highly educated stakeholder groups, statistical literacy should not be taken for granted. Additionally, some readers may be less in the habit of reading a large amount of text or data/tables than others.

Considering these aspects can significantly improve IQA communication.

Solving communication issues. A historical example

It is broadly accepted that IQA units face challenges in communicating relevant findings effectively. However, communication in quality assurance is not a recent problem. Florence Nightingale, the inventor of evidence-based nursery, famously dealt with similar problems while pressing for hospital reform. Her analytical quality assurance approach not only defined new standards in analyzing quality relevant issues in collecting structural data, but also in visualizing and communicating them to her relevant stakeholders.

Consequently, there are a number of lessons we can draw from her works. Not only as a scholar, but also in how she convinced key stakeholders to engage in reforms.

Following bad press reports in the "The Times" about the Crimean war (October 1853 to February 1856), Secretary At War Sidney Herbert recruited Florence Nightingale (an experienced nurse and statistician) with a staff of 38 nurses to improve the catastrophic situation in the military hospital of Scutari. The conditions in this hospital led to 16.000 deaths from disease, against 4,000 deaths from battle at the end of war (Attewell 1998: 158). On October 13, 1854, *The Times* wrote:

"It is impossible for any one [sic] to see the melancholy sights of the last few days without feelings of surprise and indignation at the deficiencies of our medical system. The manner in which the sick and wounded are treated is worthy only of the savages of Dahomey [sic!] (Goldie 1997: 18)."

Florence Nightingale reported to Sidney Herbert in personal letters, pointing out shortcomings of the facilities in detail and naming responsible persons she deemed incompetent for hospital administration. Sidney Herbert thus had the knowledge to implement a number of reforms, drastically reducing the number of deaths due to diseases acquired inside the hospitals.

"Florence Nightingale not only analyzed the causes of the present disaster, but formulated and developed a comprehensive scheme for administering the hospitals, for purveying, feeding, clothing the inmates, for raising and training an efficient corps of hospital orderlies, and for improving the training and standing of the medical officers (Goldie 1987: 69-70)."

Florence Nightingale skillfully avoided the traps and obstacles in communicating IQA topics. She dealt with the relevant data issue by rigorously collecting data about the medical cases of the patients *[Relevant data available]*. Although public attention was high during the war, it decreased soon afterwards. Due to her engagement, she managed to sustain the attention level regarding hospital management *[Lack of attention]*. In the course of these efforts, she invented visualization techniques to make critical issues easier understandable *[Lack of comprehension]*

Florence Nightingale followed a clear and disciplined approach to improve the situation in military hospitals. She was…

(1a) clear in her objectives

Florence Nightingale had a goal. That goal was on the one hand to improve the quality of hygiene in the hospitals. It seems that her scientific interest in the "laws of health" (Attewell 1998: 157) made her see the structural problems in the procedures of nursing the sick as well as increasing training standards for nurses. To increase the quality standards of hospitals, Florence Nightingale subordinated all IQA related methods to this goal.

(1b) aware of the roles she was playing

Florence Nightingale acted according to the role she was playing in a certain environment. For example, when she arrived at Scutari hospital, she did not insist on the authority given by the government, but rather instructed her nurses to follow orders of the present military doctors. This was a strategic move in order not to imperil the prospect of reform (Attewell 1998: 157). She was also willing to play a public role as the "angel of mercy" when it suited her cause.

(2) rigorous in her methods

Florence Nightingale wrote many scientific books and papers that lay the foundations for evidence-based nursery. She was at the same time precise, trying to find the underlying cause of things, and pragmatic, trying to make the most of what she had. On January 6, 1856, Nightingale writes in a letter to Sidney Herbert:

"Everything which succeeds is not the production of a Scheme, of Rules & Regulations made beforehand, but of a mind observing & adapting itself to wants & events (cf. Goldie 1987: 184)."

Her scientific rigor in her procedural methods is illustrated best by the example of a Liverpool workhouse infirmary, which introduced professional nursing in 1865. After an evaluation found this measure did not decrease mortality rates, she was able to point out a series of methodological shortcomings (such as ignoring the importance of a control group or the lack of randomization of the cohort), thus refuting the claim that professional training made no difference (McDonald 2001: 69).

(3) stakeholder oriented

In pressing for reform, Florence Nightingale had a reflected approach on whom to contact in order to bring about change. For example, she established correspondence with Adolphe Quetelet, who was at the time presiding over the International Statistical Congress. In a letter, she advocated the uniform collection of hospital statistics, to enable a comparison by hospital, region and country (McDonald 2001: 68). She argued, this data was needed to persuade public opinion. Consequently, the International Statistical Congress adopted a resolution on uniform hospital statistics (McDonald 2003: 75).

(4) Customizes information according to target audience

The works of Florence Nightingale show her conviction, that in order to persuade someone into taking action, it is important to make the presented arguments as real and vivid as possible.

"Nightingale was keen not only to get the science right but also to make it comprehensible to lay people, especially the politicians and senior civil servants who made and administered the laws (McDonald 2001: 68)."

At that time, most Members of Parliament, which she tried to convince, did not have a profound knowledge of statistics and would not have understood a statistical report. Nightingale took into account their prior knowledge. She was the one of the first scholars to use graphical visualization of statistics.

Practical application

In the following, we propose an analytical framework based on Florence Nightingale's example. It can be used as a guideline for the conception of an IQA project. In particular, it should help to find out how to best conceive your IQA output. In the end, the framework will establish a profound linkage to all stakeholders and provide greater clarity for your IQA procedure from inception to the moment of impact.

In one way or another, every IQA unit will consider the aspects contained in those four steps. However, it is useful to make your choices explicit, as we can carry out QA more rigorously.

(1) IQA objective	(2) Evaluation Instrument	(3) Addressee	(4) Communication
What precisely is your IQA objective and which role are you playing in a certain case?	*Which Evaluation instrument, and/or data is suitable for a certain objective?*	*Who will receive the information?*	*Which means of communication is best suited for your objective, instrument and addressee?*

(1) IQA Objective

At first, we suggest to define the objective of your IQA endeavor, and to reflect on the role that IQA is playing for a particular problem. When it comes to communicating, we define objectives of IQA by three categories:

1. *Documentation*
2. *Warning*
3. *Developing suggestions for improvement*

When QA acts in its ***documentation*** function, this may include keeping track of important quality indicators, archiving data in a sensible manner so that it is easy to retrieve for various purposes. Good documentation can credibly demonstrate that certain required standards are met. In this function, QA can also be an interface for external stakeholders that hold a university accountable. Data often have to be collected for documentation issues related to (legal) requirements by external stakeholders (e.g.: the ministry).

When QA works in its ***warning*** function, it acts by itself in order to signal to key stakeholders possible shortcomings that "need" to be addressed. In this function, effective communication is an integral part and a necessary condition for success. If warnings are not heard, IQA becomes irrelevant.

Borrowing from a political science theory, we can separate two kinds of ways of exercising this function, "police patrol"- and "fire alarm"-oversight (cf. McCubbins and Schwartz 1984; Lupia and McCubbins 1994). The former defines a centralized and direct approach to uncovering hidden knowledge. IQA exercises "police patrol"-oversight in situations where it is also the final arbiter of a standard, such as in course evaluation. "Fire alarm"-oversight is an indirect, decentralized and passive approach to assure quality, such as managing the possibility of open feedback from various stakeholders. Depending on these two kinds, communication imperatives will vary, too.

When QA acts in its ***improvement*** function, it develops suggestions based on the insight gained in the documentation and warning function. Considering the amount of information of which IQA disposes, it is in a key position to develop suggestions for stakeholders. On the other hand, since IQA mostly

operates under the label of university administration, it might be difficult to accept suggestions from IQA for some stakeholders. Thus, in this function, IQA has to persuade stakeholders actively in order to induce change.

(2) Evaluation Instrument

Every IQA unit normally works with different evaluation instruments and methods. However, an evaluation instrument should be developed to meet the IQA objective and having the relevant stakeholders in mind. Additionally, the instrument should balance the aspects of relevance of output and rigor of methods. The relevance of output increases, when it meets the requirements of the IQA objective and the communicative impact of its messages. If instruments are used for their own sake, rethinking them could be appropriate.

(3) Who is concerned?

Based on our IQA objective, we need to define precisely whom we are addressing with our output. We have come up with a list of stakeholders in the table below. In this step, it might be more useful to adapt the stakeholder list to a specific HEI environment, instead of adopting this list. Identifying affected stakeholders will provide some guidance for developing a customized output. However, it is advisable to reflect on the community, which a certain stakeholder is part of, and the way a stakeholder is reachable. Thinking about stakeholders' communities can get you a more detailed idea about his/her habit in dealing with data and information.

(3) Addressee

| (a) group	(b) community/network	(c) how to reach them?
Student, *Prosp. student,* *Parents,* *Faculty,* *Staff,* *Employer,* *EQA body,* *Patron,* *Alumni*	*Based on the group, define characteristics of the community/network with regard to their info consuming habits*	*In the identified community, how is information commonly retrieved and shared?*

(4) How to communicate?

Finally, we choose the means of communication that is best suited for our objective, IQA-instrument and audience. Based on the identified habits of retrieving information of stakeholders, you can determine how elaborate your output should be. For example, some executives who base their everyday work on new information often prefer to be briefed in 2-page information sheets that do not contain continuous text. Scholars are more likely to be used to complex graphs and tables, and dealing with information in general. They may prefer to read what "merits to be read" with regard to the information that can be obtained from it. However, in order to draw the right conclusions from the identified addressees, specific knowledge about their information-consuming habits is needed.

Many publications offer guidelines for good communication and visualization in general. For example, when following the visual rules established by Edward Tufte (1985), the previous considerations about objective, instrument and audience can help to make an informed choice about visualization or any other aspects of communication.

An example
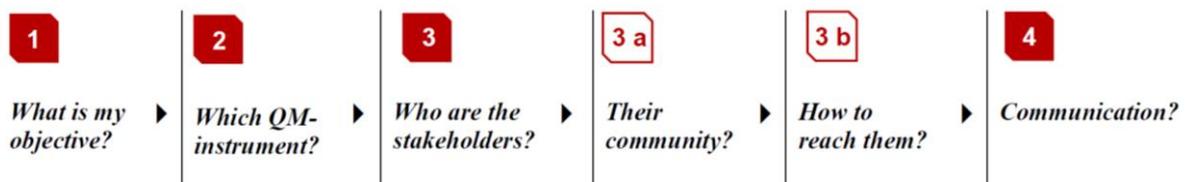
Below, we applied the case of employability evaluation to our analytical framework. The first step was to define the objective, where we want to investigate how employers, alumni, students… perceive employability of graduates of a specific study program. We hypothesize that perceptions of employability are not satisfying. If our hypothesis will not be falsified, we intend to improve employability in the medium term. We thus act in our *improvement function*. In order to find out if our hypothesis is true, we use our framework to structure an adequate assessment of employability. Based on our objective, we defined a feasible method and the relevant stakeholder groups. For our example, we thought about possible ways to contact and communicate with the community of law students. This particular community is just one of the stakeholders we found relevant in this case, so we applied the procedure to each stakeholder group identified.
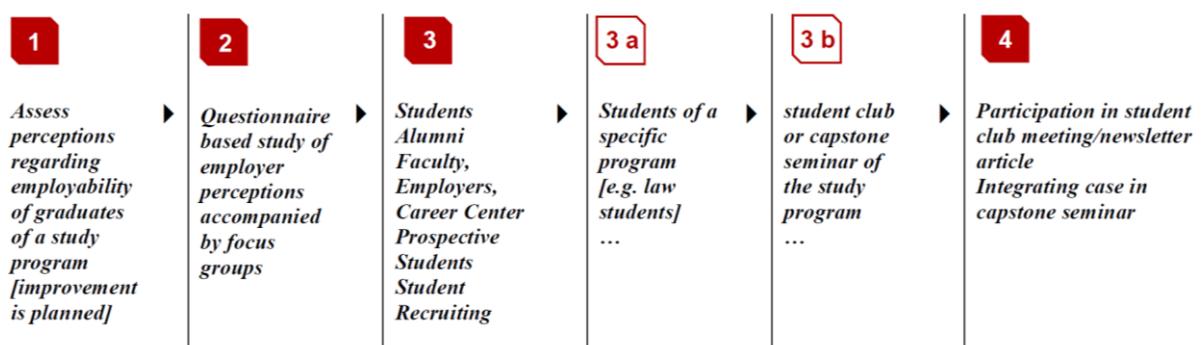
Conclusion and further developments

We presented an analytic framework to increase the overall impact of IQA. Our framework helps to reflect relevant procedural steps. Its thorough application to all relevant IQA issues enables IQA units responsible parties to optimize the "portfolio" of measures by prioritizing the objectives of an IQA unit.

We laid the conceptual foundations on which we can (a) build applied strategies to improve planning and communication of IQA measures and (b) further develop the framework by building a standardized and categorized IQA planning toolkit (e.g.: a database that shares and manages information about IQA measures that have been planned or implemented). Consequently, this toolkit could help IQA units to learn from activities in other HEIs in a structured way.

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Discussion questions:

Do you use a structured approach to plan, manage and communicate your IQA projects? (which?)

Do you use a structured approach to manage your IQA project portfolio? (which?)

What are, in your opinion, the main obstacles to increasing impact of IQA activities?

Please submit your proposal by sending this form, in Word format, by 24 July 2017 to QAForum@eua.be. The file should be named using the last names of the authors, e.g. Smith_Jones.doc. Please do not send a hard copy or a PDF file.