

Using importance–performance analysis to bridge the information gap between industry and higher education

Olivia Wohlfart 

Leipzig University, Germany

Gregor Hovemann

Leipzig University, Germany

Abstract

The goal of this viewpoint article is to introduce, critically analyse and further develop importance–performance analysis (IPA) as a framework through which strategic management recommendations can be extracted for higher education institutions. The article introduces a new method of combining the perspectives of two significant groups to bridge the information gap between industry and higher education by exploring the results of two differing IPA variants from the context of sport management. The first IPA matches the importance and performance of future competencies based on statements solely derived from the labour market. The second explores the same importance measures in comparison to performance measures derived from current graduates. The authors discuss the advantages and disadvantages of each analysis and recommend the use of this framework in the effort to decrease the existing information asymmetry between industry and higher education.

Keywords

Asymmetric information, importance–performance analysis, principal agent theory

Ever since the introduction of importance–performance analysis (IPA) by Martilla and James (1977), the framework has been applied, criticized and developed in many different research contexts, including *industry* (Hansen and Bush, 1999; Slack, 1994), *services* (Feng and Jeng, 2005), *tourism* (Duke and Persia, 1996; Oh, 2001; Ziegler et al., 2012), *leisure and sport activities* (Rial et al., 2008) and *health* (Abalo et al., 2006; Dolinsky, 1991).¹ The original article by Martilla and James (1977: 77) defines the model as a ‘technique for measuring attribute importance and performance [to] further the development of effective marketing programs’. To date, the original article has been cited 4044 times (Google Scholar, accessed 6 November 2018).² The popularity of the framework lies in its perceived simplicity and the tangibility of the strategic management recommendations, which are represented in a two-dimensional grid that allocates specific attributes to one of four quadrants according to their ‘importance’ (*Y*-axis) and ‘performance’ (*X*-axis). The four quadrants indicate strategic implications for the attributes (Figure 1).

There are, however, downsides to this practical tool. Articles employing the IPA often lack a clear theoretical frame, the framework is misused and the limitations of results are seldom reflected critically. The few conceptual articles focus on differences between stated and derived importance (Abalo et al., 2006; Bacon, 2003; McLeay et al., 2017; Mikulic et al., 2016; Oh, 2001), the amount of and relationship between the measured attributes (Feng et al., 2014; Oh, 2001; Rial et al., 2008) and the classification of different quadrant models (Abalo et al., 2007; Bacon, 2003; Rial et al., 2008). Martilla and James (1977: 79) suggest that positioning the axes is ‘a matter of judgment’. Within the quadrant models, authors have generally placed the cross-point either in the centre of the

Corresponding author:

Olivia Wohlfart, Faculty of Sport Science, Institute for Sport Psychology and Sport Pedagogy, Department of Sports Economics and Sports Management, Leipzig University, Jahnallee 59, 04109 Leipzig, Germany.
Email: olivia.wohlfart@uni-leipzig.de

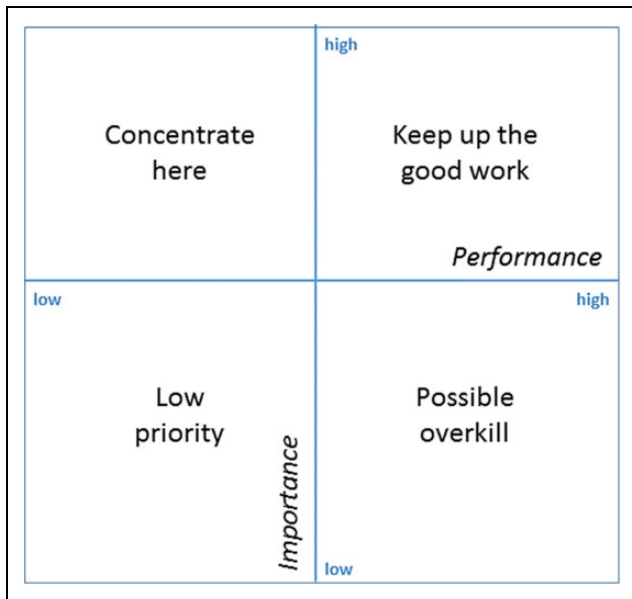


Figure 1. Original importance–performance grid.
Source: After Martilla and James (1977).

scale used (Go and Zhang, 1997; Ortinau et al., 1989) or in the centre of the data (Ford et al., 1999; Lowenstein, 1995). Bacon (2003: 58) refers to these approaches as the ‘scale-centred quadrants approach’ and the ‘data-centred quadrants approach’ and recommends the latter.

In general, IPA follows the trend of a consumer-driven market, deriving management strategies by assessing the importance and performance of one sample group. In the field of higher education, studies using IPA focus on quality management and customer (student) satisfaction (Alberty and Mihalik, 1989; Lakkoju, 2016; McLeay et al., 2017; O’Neill and Palmer, 2004; Pike, 2005). McLeay et al. (2017), for instance, make use of a questionnaire with 33 paired-items pertaining to both performance and importance to better understand student satisfaction. Students were asked to evaluate both importance and performance of specific items (i.e. registration procedures, course workload) on a five-point Likert-type scale. The importance–performance relationship was then assessed by means of correlation and quadrant analysis.

With the neo-liberalization of education (Bowers et al., 2014; Thiele, 2008) and the global trend towards a market-driven orientation, higher education institutions are called on to fulfil the requirements of specific labour markets. To be successful in this assignment, there needs to be a bilateral notion of what the future labour market will need (importance) and what future graduates will provide (performance). The goal of this viewpoint article is therefore to extend the IPA framework by integrating a second relevant sample group and hence, splitting the questionnaire into two – one on importance and one on performance. In doing so, we aim to offer a suggestion of how the tool might be

used in the context of the relationship between industry and higher education.

Methodological approach

To fulfil this goal, let us take a look at the two data-centred IPA matrices in Figure 2, based on an example of relevant competencies for future sport management graduates.³ The first matrix has been created based on the rating of self-explicated importance (arithmetic means of respective importance ratings; $n = 56$; five-point scale: 1 = *Not at all important*, 5 = *Very important*) and performance measures (arithmetic means of respective performance ratings; five-point scale: 1 = *Weak*, 5 = *Very strong*) of German sport management labour market experts. The second matrix shows the same importance values (based on the competency needs of the sport management labour market) matched with self-explicated performance values of sport management graduates (arithmetic means of respective performance ratings; $n = 54$; five-point scale: 1 = *Weak*, 5 = *Very strong*). The importance values (and performance values of the first matrix) are based on data from an ERASMUS+ study on New Age of Sport Management Education in Europe (online questionnaire). Sport management labour market experts were asked to assess the importance of specific competencies for future sport management graduates (future importance) as well as their own level of competency (current performance). The performance values of the second matrix are based on an additional paper and pencil questionnaire with 56 sport management graduates of the Leipzig University shortly before graduation with the same variables.⁴ Both matrices follow the ‘data-centred quadrant approach’ (Bacon, 2003) and visualize the variables according to the original IPA figure (Figure 1).

Results

One can immediately identify different implications in the two IPA variants. Based on current performance, ‘strategic planning and development’ and ‘crisis management’ should ‘keep up the good work’, while the future performance (based on the graduates) stipulates ‘concentrate here’. Accordingly, ‘sport tourism’ has a ‘low priority’ for the IPA based on the current performance while it is ‘possible overkill’ in the future-based IPA. Considering the data more carefully, we find significant differences between the mean values of self-explicated performance figures ($p < 0.05$) as well as a large variation of discrepancies between importance and performance values (0.12–1.30). It seems the sample groups evaluate performance quite differently. While most competencies switch to a different quadrant, a couple remain in their strategic quadrant. So what does this mean in the context of higher education?

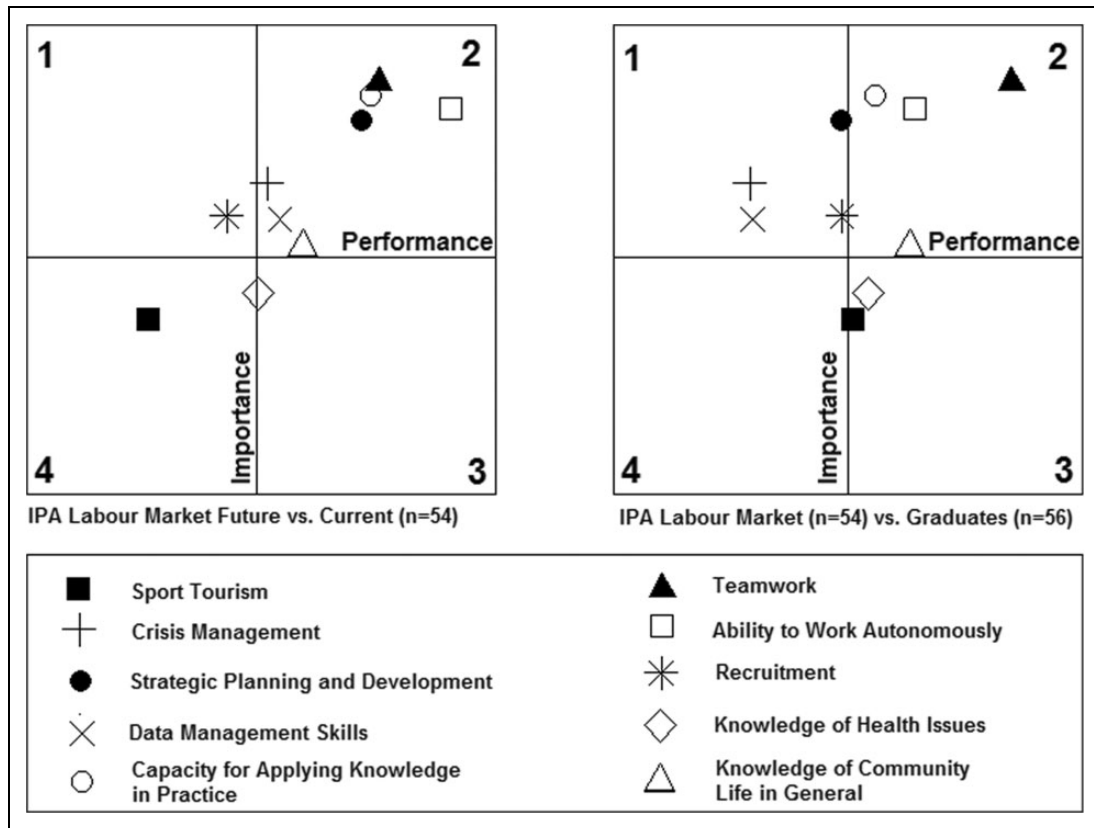


Figure 2. Current performance versus future performance IPA. IPA: importance–performance analysis.

Management implications

We stipulate that, in the current context of the neo-liberalization of education and in alignment with the Bologna Process, higher education institutions (agent) adhere to the ‘metaphorical contract’ of educating students according to the specific labour market (principal) needs (Wohlfart et al., in press). In that sense, both IPAs have their reason to exist, depending on the implementing institutions. The first IPA (self-explicated importance and performance of the labour market) gives strategic management implications on a generic level looking to the future (i.e. when first considering or implementing a study programme in a certain area). The second IPA (self-explicated importance of the labour market and self-explicated performance of graduates), on the other hand, has specific implications as a means of evaluating the status quo (in our example the IPA has strategic implications for the further development of a specific study programme). The representation of the data in IPA is designed to show discrepancies between the principal and the agent in this study.

The IPA is an easy-to-use tool with strategic management implications. As with other instruments (SERVQUAL, SERVPERF), the implications are only as good as the information fed into the instrument. As our example clearly shows, the implications derived from an IPA greatly

depend on the sample group questioned. Previous studies in the context of higher education have focused on the quality of a study programme solely from the student’s perspective (Mai, 2005; McLeay et al., 2017; Sapri et al., 2009). While these studies base their research on the need for industry-based standards and non-academic stakeholders, the perspective of industry is not taken directly into account. While we agree that student satisfaction is an important factor in the assessment of study programmes in higher education, we argue that it cannot be the sole measure of internal quality. Hence in this article, we aim to promote quality assurance in higher education by taking the perspective of industry into consideration. We strongly believe that, in order for higher education institutions to make effective strategic decisions, it is necessary to consider more than one stakeholder group. While labour market experts may be able to foresee trends and developments, including a second sample group adds value through another perspective and avoids bias from the interviewed experts. With the inclusion of another group of experts, it is possible for institutions of higher education to explore the status quo of their own study programmes based on the needs of the labour market and the performance of their students.

The original article by Martilla and James (1977) advises separating importance and performance measures.

We took this very literally and separated the sample groups reporting importance and performance. This new approach provides a different result when compared to the original IPA. The managerial implications must necessarily be dependent on the sample group(s) and the underlying research questions. Ideally, both types of measure should be used and compared in making management decisions for institutions of higher education based on information from the industry.


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ORCID iD

Olivia Wohlfart  <https://orcid.org/0000-0001-5020-6590>

Notes

1. For an overview of relevant research areas using the IPA, we refer to Rial et al. (2008) and Abalo et al. (2006).
2. Versus 3164 citations in October 2016 (Mikulic et al., 2016).
3. The exemplary competencies were chosen based on differing importance measures as well as significant differences between the two sample groups ($p < 0.05$).
4. Data available from the authors on request.

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