

# **GLOBAL RANKINGS IN SWEDISH UNIVERSITIES**

## **A QUALITATIVE STUDY OF KNOWLEDGE MANAGEMENT PRACTICES**

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## **Title**

Global Rankings in Swedish Universities: A Qualitative Study of Knowledge Management Practices

## **Abstract**

During the past two decades, the higher education sector has undergone rapid changes as a result of which many higher education institutions (HEIs) find themselves being compared to other institutions. Global rankings have become the prime mechanism for providing such comparisons. How nations and their HEIs respond to the developments in the higher education sector is context-specific. There is a limited number of studies investigating the impact of rankings on less competitive higher education systems, such as those in the Nordic region, and universities that perform quite well in the rankings but are not on the top of the ranking results. This thesis therefore sets out to better understand the relevance of global university rankings in the context of Swedish HEIs. The aim of the study is to understand how universities work with international rankings from the perspective of bibliometricians and analysts, namely, specialists working directly with rankings. The theoretical framework is based on knowledge management theory and, more specifically, Gilbert Probst's conceptual model. The empirical data were collected through semi-structured interviews with bibliometricians, analysts, and a researcher. The results show that various universities have chosen to delegate the task of monitoring rankings to different units, ranging from the university library to other departments closely related to central management. The prevalent view is that rankings are to some degree relevant for HEIs, but rankings should be considered with great caution and should not be used as a basis for strategic decision-making. Rankings do not constitute a central subject area in university organisational knowledge. Depending on the circumstances, rankings can become a more central subject area or remain on the periphery of the organisational knowledge base.

## **Keywords**

university rankings, knowledge management, analysts, bibliometricians, university libraries, central university management, Sweden

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# Introduction

During the past decades, the realm of global higher education has undergone rapid changes. As a result, increasingly more universities find themselves a part of a trend wherein they are compared to other higher education institutions (HEIs). In this process, rankings have become one of the key mechanisms for providing such comparisons (Wint and Downing, 2017, p. 234).

As an international phenomenon, rankings emerged not long ago. In 2003, Shanghai Jiao Tong University in China presented the first global ranking: Academic Ranking of World Universities (ARWU). Since its launch, international rankings have not only become an intrinsic part of the larger debate on the value and impact of universities (Hammarfelt, de Rijcke and Wouters, 2017, p. 392) but have also transformed from “a relatively obscure form of comparison to being a central tool of institutional and governmental strategy with attendant implications for institutional direction, education policy and impacts on institutional funding” (Usher, 2017, p. 23).

Scholars describe the rapid growth of international university rankings from various perspectives and name numerous probable causes. Some academics explain this growth in terms of larger developments, such as globalisation, or internationalisation and marketisation of higher education (Hammarfelt, de Rijcke and Wouters, 2017, p. 392). Some point to the increasing interest in egalitarianism (as opposed to elitism) and an attempt to make higher education available to the general public (Shin and Toutkoushian, 2011, pp. 2–3). Others argue that the need for information on academic quality has resulted in the appearance of rankings worldwide (Dill and Soo, 2005, p. 495). There is also an opinion that the increase of rankings could be intertwined with advancements in the research fields of bibliometrics and statistics (Hammarfelt, de Rijcke and Wouters, 2017, p. 392).

Rankings, in a broad sense, can be viewed as a comparison between institutions based on quantitative indicators or criteria. Once compared, the institutions are listed in descending order corresponding to the results of one or several indicators

(Usher, 2017, p. 24). With the help of indicators, one can measure various aspects of higher education, which, depending on how ranking agencies value each indicator, bear different weights (Hazelkorn, Loukkola and Zhang, 2014, p. 20). By making comparisons between HEIs, ranking providers aim to distinguish the best-performing institutions although such evaluations are determined by the corresponding ranking agency's indicators (Loukkola, Peterbauer and Gover, 2020, p. 20).

How nations and their HEIs respond to the changes and developments within the higher education sector varies and is context specific (Bagley and Portnoi, 2016, p. 35). Moreover, one might wonder whether globalisation has spread to the same degree and at the same pace across different regions, and whether globalisation results in standardisation (Elken, Hovdhaugen and Stensaker, 2016, p. 782). Having in mind that countries respond differently to global changes in the context of the higher education landscape, this thesis focuses on Sweden.

Given that international rankings have been able to affect HEIs in terms of global visibility and reputation by presenting a convincing “story about the quality, capacity, and capability of HEIs and their host nations” (Hazelkorn, 2014, p. 18), as well as having an impact on the identity of HEIs, or the collective notion of who they are and who they should be (Elken, Hovdhaugen and Stensaker, 2016, p. 783), this study investigates how Swedish universities view international rankings.

During the 2000s, the number of international and national rankings increased (Waarnerperä, 2011, p. 8), and yet this tendency was not present in Sweden. A national ranking called Urank was established in 2007, but six years later it was discontinued, which might suggest a low demand for university rankings among Swedish students (Söderlind, 2020, p. 21) and other users. It could even be said that “Sweden has a relatively brief and limited history of the ranking of universities and other higher education institutions” (Swedish National Agency for Higher Education, 2009, p. 43). Despite the fact that there are no national university rankings in Sweden and there has been little interest in them from students, the universities themselves seem to have some interest in rankings. A number of institutions highlight on their websites their performance results in global rankings (Lövgren, 2017, p. 260).

## Purpose and research questions

There are tens of thousands of universities worldwide, and yet merely a small portion of these are regarded as world-class or elite; moreover, HEIs belonging to the upper echelons are located in a limited number of countries, such as the United Kingdom, the United States and Japan. It could therefore be said that top-tier universities represent only a small pinnacle of globally existing HEIs (Zajda and Rust, 2016, p. 12). With respect to the existing research, a substantial number of studies have focused on this pinnacle of global HEIs. There is relatively little research dealing with universities that perform quite well in the rankings without being at the very top. Furthermore, there is a limited number of studies investigating the impact of rankings on less competitive higher education systems, such as those in the Nordic region (Elken, Hovdhaugen and Stensaker, 2016, p. 785).

On their websites, some of the Swedish universities provide information about their standings in various rankings. However, it is unclear to what extent universities relate to and observe international rankings. In an attempt to better understand the relevance of global university rankings in the context of Swedish HEIs, this thesis aims to understand how universities work with international rankings from the perspective of bibliometricians and analysts. That is, specialists working directly with rankings and having a deep understanding of these evaluation mechanisms. To fulfil this aim, knowledge management theory is applied because it enables one to analyse how organisations internalise new knowledge, that is, how gathered information from the rankings is incorporated into the knowledge base of universities. The overall research question and sub-questions are as follows:

How do Swedish universities work with international university rankings?

- How are university rankings perceived by bibliometricians and analysts?
- How are information and knowledge about university rankings collected and disseminated within the respective organisations?

The choice to focus on bibliometricians and analysts, rather than university leadership, was made to avoid a top-down perspective. Previously, a study on global university rankings in the Nordic context was conducted with senior university leadership, and the authors acknowledge that such an approach comes with certain limitations because it provides a “rather top-heavy picture” of the examined universities (Elken, Hovdhaugen and Stensaker, 2016, p. 787). Even though university management is knowledgeable about global rankings and can

explain how their organisation perceives and works with international rankings, they perhaps do not possess specialist expertise on rankings per se. Because bibliometricians and analysts have a deeper understanding, knowledge and experience in this subject area, they can be seen as experts (Davenport and Prusak, 1998, p. 7).

This thesis contributes to the interdisciplinary field of Library and Information Science and is aimed at librarians, information specialists, bibliometricians and students. In an academic context, librarians frequently serve as liaisons between university administration, faculties and departments. These are specialists who should be aware of various measures, including rankings, to be able to assist faculty members, researchers or students to navigate the large number of existing rankings, to explain their impact and to locate relevant research in the field (Pagell, 2014, p. 157; Roemer and Borchardt, 2015, p. 61). Since this study examines not only the perceptions of global rankings among Swedish universities but also analyses knowledge management practices related to this phenomenon, this study could also be relevant for those conducting research in the field of Library and Information science due to “the multi- and meta-disciplinary nature of their work with patterns of information” (Roemer and Borchardt, 2015, p. 4). The way rankings are perceived and employed in different countries and regions reflects to some degree how the purpose of universities is defined in those places (Usher, 2017, p. 24). Thus, this thesis may prove relevant for those who take an interest in higher education research.

## Structure of the thesis

The aim and research questions of this thesis are outlined in the *Introduction*, while an overview of the existing global rankings, their providers and main user groups is provided in the following section. Previous research is reviewed in the section *Literature review*, whereas the theoretical framework and, more specifically, knowledge management approach together with Gilbert Probst’s conceptual model are discussed in the section *Theoretical framework*. The data collection and analysis methods are described in the *Methodology* section along with ethical considerations. Empirical data is presented in the section of *Empirical Findings*, thereafter, followed by the *Analysis and discussion* section where empirical findings are analysed from the perspective of knowledge management theory and considered in the light of previous research. Conclusions of this study as well as suggestions for future research are reported in the final section.



# Background

This section provides a brief introduction to the existing international rankings. I also discuss the diverse actors standing behind global rankings and those user groups that are considered to be the main target audience. The different sources and types of data employed to calculate university standings are presented at the end of this section, along with general criticism concerning rankings.

## Existing rankings

The first university ranking was developed by the American psychologist James McKeen Cattell in 1910. The ranking was based on the *scientific strength of an institution*. That is, Cattell based his calculations on the number of distinguished scientists affiliated with a given university. Only American universities were included in this list, and these were arranged in a top-down order. Now, more than hundred years later, university rankings have evolved into an instrument to measure the quality of higher education (Hammarfelt, de Rijcke and Wouters, 2017, p. 392). The initial proliferation of global rankings was largely driven by the national interests of China. Following the United States and its leading universities in global science, China aimed to establish similar research universities and created benchmarks for this purpose (Jöns and Hoyler, 2013, p. 56). Shanghai Jiao Tong University, as noted earlier, introduced the first global ranking, ARWU, in 2003.

Currently there are around twenty-five international and several hundred national rankings. The major ones, in the order of their emergence, are ARWU (2003), Ranking Web of Universities (Webometrics; 2004), uniRank University Rank (2005), National Taiwan University Ranking (NTU Rankings; 2007), CWTS Leiden Ranking (Leiden ranking; 2008), SCImago Journal and Country Rank (2009), RUR Round University Ranking (2010), QS World University Rankings (QS; 2010), Times Higher Education World University Rankings (THE; 2010), CWUR World University Rankings (2012), U-Multirank (2014), Best Global Universities Rankings (U.S. News; 2014), and Nature Index (2014). From these

rankings, ARWU, QS and THE are the most well-known and influential (O’Leary, 2017, p. 67; Hazelkorn and Mihut, 2021, pp. 4–5).

Rankings can be grouped into different categories. For instance, the International Ranking Expert Group (*see* The Berlin Principles for more information on this organisation) uses the following categories: global university rankings (featuring whole institutions), global university sub-rankings, global specialised or impact rankings, global rankings by subject (featuring different scientific fields), and regional university rankings (featuring various world regions, e.g. Latin America, Asia, or the Arab region). Moreover, rankings might range from being entirely bibliometric, such as Leiden ranking, to multidimensional, such as U-Multirank, which is funded by the European Commission (Hazelkorn, 2015, p. 31; O’Leary, 2017, p. 67; Siwinski, Holmes and Kopanska, 2021, pp. 4–5).

## Ranking providers and target audience

With respect to ranking providers, one may observe the presence of diverse actors: some are commercial bodies, while others represent academia. Granted that commercial actors have created many rankings, the advent of ARWU marks the beginning of rankings formed by academics (Kehm, 2014, p. 111; Hazelkorn, 2015, p. 31). For example, NTU Rankings are led by the Department of Library and Information Science at the National Taiwan University, Leiden ranking is steered by the Centre for Science and Technology Studies at Leiden University, and Webometrics is managed by the research organisation Consejo Superior de Investigaciones Científicas. Meanwhile, U-Multirank is administered by a consortium of organisations, consisting of the Centre for Higher Education (a non-profit organisation), the Center for Higher Education Policy Studies (affiliated with the University of Twente), the Centre for Science and Technology Studies at Leiden University, and the Foundation for Knowledge and Development. At the same time, some rankings are governed by commercial actors. For example, ARWU is currently directed by ShanghaiRanking Consultancy, QS is led by Quacquarelli Symonds Ltd, and THE is administered by THE World Universities Insights Limited (Siwinski, Holmes and Kopanska, 2021).

Initially, university rankings were established to assist prospective students and their parents with the process of choosing a study programme and a university. The primary user group has nevertheless expanded. International graduate or doctoral students, HEIs and their faculty members, governments and policymakers, as well as various foundations currently constitute the target

audience of global rankings (Hazelkorn, 2015, p. 31). If previously rankings were used to make informed choices in relation to higher education, they are now consulted for an array of purposes. For instance, rankings can be used to assess and determine potential cooperation partners, recruit staff members, steer investment decisions, evaluate memberships of international organisations, or to benchmark (Hazelkorn, 2014, p. 18).

## The Berlin Principles

In 2004, the International Ranking Expert Group (IREG), now called IREG Observatory on Academic Ranking and Excellence (IREG Observatory), was founded to evaluate the ranking systems. This international non-profit association was established by the UNESCO European Centre for Higher Education and the Institute for Higher Education Policy. Its members include ranking agencies, universities and other actors with an interest in rankings (Rust and Kim, 2016, p. 43; IREG Observatory on Academic Ranking and Excellence, 2022). In 2006, IREG Observatory drafted the Berlin Principles on Ranking of Higher Education Institutions – a document outlining standards for good ranking practice. This lists the ground principles behind the purposes and goals of rankings, the design and weighting of indicators, the collection and processing of data, and the presentation of ranking results. The document is meant to be used not only to evaluate rankings but also to make the ranking providers accountable for their process of data collection and dissemination (IREG Observatory on Academic Ranking and Excellence, 2006; Marginson and van der Wende, 2007, p. 322).

## Data sources

Rankers use diverse data in their calculations, ranging from research output to an organisation's reputation. A different set of data tends to be used for each indicator, and to gather such data, one may consult an independent third-party source, obtain data directly from HEIs, or conduct a survey (*see* Table 1). Third-party sources can be bibliometric databases and government surveys, that is, any data provider that has independently (from ranking agencies) collected data and can ensure its quality and comparability. Third-party sources are considered the gold standard for information quality; however, few can provide valid data for international comparisons (Usher, 2017, p. 24).

**Table 1.** Indicators and data sources for QS, ARWU, and THE (Source: Siwinski, Holmes and Kopanska, 2021).

<i>Ranking</i>	<i>Indicators</i>	<i>Data sources</i>
<b>QS</b>	Academic reputation (40%) Employer reputation (10%) Faculty–student ratio (20%) Citations per faculty (20%) International faculty ratio (5%) International student ratio (5%)	Data provided by HEIs Survey Scopus
<b>ARWU</b>	Alumni (10%) Award (20%) Highly Cited Researchers (20%) Papers published in Nature & Science (20%) Papers indexed in Science Citation Index Expanded & Social Sciences Citation Index (20%) The weighted scores of the five indicators above divided by the numbers of full-time academic staff (10%)	Analytics InCites Web of Science Nobel Prize laureates Fields Medal laureates Number of academic staff
<b>THE</b>	<b>Teaching</b> (30%) Reputation survey (15%); Staff–student ratio (4.5%); Doctorate–bachelor’s ratio (2.25%); Doctorates awarded–academic staff ratio (6%); Institutional income (2.25%) <b>Research</b> (30%) Reputation survey (18%); Research income (6%); Research productivity (6%) <b>Citations</b> (30%) <b>International outlook</b> (7.5%) International–domestic student ratio (2.5%); International–domestic staff ratio (2.5%); International collaboration (2.5%) <b>Industry income</b> (2.5%)	Data provided by HEIs Survey Scopus

Another way for ranking proprietors to collect data is by contacting HEIs directly. For example, HEIs can provide information on the total number of professors or students. This is considered to be accurate and reliable data; however, each ranking agency defines the requested data differently thus leaving room for interpretation on behalf of HEIs. For example, the requirement to submit data on the number of faculty members could be interpreted differently. This could mean the number of full-time faculty members only, or this figure could also include

part-time faculty members and emeritus professors. A survey is another method for gathering data: ranking agencies tend to survey students, faculty members, or administrators, asking about educational or institutional quality (Usher, 2017, pp. 24–25).

## Criticism

While rankings have become a widespread phenomenon and are consulted by a wide range of users, scholars remain rather cautious towards these evaluative systems. Tuukka Kaidesoja, a researcher at the University of Helsinki, Finland, observes an apparent paradox in this field. While global rankings are having a growing impact, there are methodological limitations and unintended adverse consequences associated with these rankings. This is creating a growing consensus amongst scholars that the negative consequences of rankings are outweighing the benefits (Kaidesoja, 2022, p. 130). It could be therefore said that university ranking placements should not be treated as wholly reliable or, as David Robinson, writes “there is good reason to maintain a healthy dose of skepticism when it comes to reading the relative position of universities in a ranking” (Robinson, 2013, p. 66).

When researching global rankings, scholars tend to highlight a number of problematic areas. The main criticism is directed toward ranking indicators and weightings attributed to the indicators, the notion of quality and the capacity to measure quality through measurements of quantification, and the ability to measure and compare whole institutions. Provided that HEIs are complex organisations existing in different socio-political and economic contexts, critics are doubtful of whether existing methodologies “can transcribe complex institutional activities into a ‘wealth of quantitative information’ and aggregate it into a single rank equivalent to a proxy for overall quality” (Hazelkorn, 2015, p. 86). HEIs and their practices are reduced to a rather simplistic view. League tables or ranks attempt to represent the complexity of universities on a numerical scale, with organisations placed in different positions, while statistically there might not be any significant differences in the compiled data (Marginson and van der Wende, 2007, p. 321; Robinson, 2013, p. 65). The margin differentiating two or more ranking positions can sometimes be negligible.

The fact that some ranking users might not be aware of or lack knowledge about the various indicators, and what they represent, can lead to uninformed decisions. A prospective student may consult rankings to make a decision about his/her

future education without being aware that many rankings are based on indicators associated with research rather than teaching quality (Loukkola, Peterbauer and Gover, 2020, p. 20). This highlights two separate but equally problematic areas: data collection on research output and the interpretation of ranking results. There is a tendency among the ranking providers to put an emphasis on research output as well as citations, and subsequently use those as a proxy for the notion of quality. Yet, the number of publications generated by a specific university or a department may not indicate the actual quality or impact of the produced research output (Robinson, 2013, p. 66). This leads to another vital aspect: the interpretation of the ranking results. The results themselves may provide useful information about an organisation's productivity or performance and yet if these results are interpreted naively, one might come to false conclusions (Wint and Downing, 2017, p. 247).

As described earlier, rankings employ various indicators or a combination of indicators each of which are assigned a certain weight. Despite the fact that ranking agencies tend to explicitly state how each indicator is weighted, such decisions are arbitrary and those can have an influence on overall ranking results (Goglio, 2016, p. 213). Weightings of each indicator are subjective, and essentially demonstrate value judgements of the ranking proprietors (Hazelkorn, 2015, p. 53).

To summarise, it could be said that all rankings are both purpose-driven and in some ways biased. As long as one is aware of the existing limitations and interprets the ranking results in the light of those purposes the rankings are fulfilling, it is then justified to consult ranking results (Marginson and van der Wende, 2007, p. 321).

## Literature review

This section highlights some of the previous research in the field and provides context for the study. As the number of rankings has increased, the area of research aiming to understand and theorise ranking significance and influence on various stakeholders has expanded (Hazelkorn and Mihut, 2021, p. 4). The overall literature on rankings can be divided into the following three categories: critical studies, methodological studies, and studies focusing on influence and effects. Critical studies tend to discuss rankings in a more general context of higher education development, while methodological studies examine ranking methodologies and analyse what indicators have been chosen or how calculations are being done. These types of studies tend to examine rankings through empirical observations. The final research strand studies university ranking impact; these studies are often based on questionnaires or interviews and focus on different stakeholders (Hammarfelt, de Rijcke and Wouters, 2017, p. 394). The literature presented in this thesis comes from all three strands of research and are grouped into the following headings: ranking impact on higher education; rankings: indicator for higher education quality; rankings in the Nordic context; rankings as sources of information; and university libraries and ranking results.

### Ranking impact on higher education

In 2014, European University Association carried out the study *Rankings in Institutional Strategies and Processes: Impact or Illusion*. The authors of this study, Ellen Hazelkorn, Tia Loukkola and Thérèse Zhang, examine how rankings influence European HEIs, their strategic development and other institutional processes. The study includes 171 HEIs from thirty-nine countries and concludes that there are four categories of institutional processes affected by rankings. Those are mechanisms monitoring rankings, clarification of institutional profile and core activity adoption, improvements to institutional data collection, as well as institutional image improvement (Hazelkorn, Loukkola and Zhang, 2014, p. 13). First, HEIs monitor rankings and have dedicated units that monitor ranking developments. Even if the units are not new or entirely dedicated to rankings,

rankings have created new assignments and tasks for already existing units. Monitoring tasks are most often assigned to strategic planning, management, international relations or other units. Second, HEIs define and communicate their profiles, for example, by explaining why certain institutions are not ranked or the opposite – if institutions would like to improve their research output. Third, HEIs have invested in data collection processes and annual reporting. Finally, rankings have affected how HEIs communicate and market institutions to increase institutional visibility. This could include activities to develop new corporate image, establish relations with ranking agencies, or urge researchers to state their institutional affiliations (Hazelkorn, Loukkola and Zhang, 2014, p. 49). The Institute for Higher Education Policy reaches similar results in the report *Impact of College Rankings on Institutional Decision Making*, which is based on four case studies from Australia, Germany, Japan, and Canada. The report concludes that rankings affect HEIs in the following areas: strategic positioning and planning, staffing and organisation, quality assurance, resource allocation and fundraising, admissions, and financial support (Institute for Higher Education Policy, 2009, p. 01).

In the anthology *Europe: Impact and Influence of Rankings in Higher Education*, Tia Loukkola (2017) discusses rankings and their influence on higher education in the European context. She concludes that rankings have become a common segment of the higher education narrative. Whenever new ranking results are available, they receive certain attention as a topic of debate – a process that recurs every year. Thus, rankings have become one of the many sources providing information on higher education (Loukkola, 2017, p. 114).

In the article ‘Global University Rankings – Impacts and Unintended Side Effects’, Barbara M. Kehm (2014) explores global rankings and their impact on three different scales: the European landscape of higher education, national systems as well as HEIs. It is argued that researchers are increasingly more focused on higher-ranked institutions, which can lead to a divide between universities concentrating on research and those focusing on teaching only. Rankings have also caused an indirect effect on HEI networks, with universities only collaborating with other in the same league. In the matter of ranking impact on national systems, a growing vertical stratification can be observed among HEIs. In some countries, this process impacts resource allocation for universities. Moreover, it is more common to observe isomorphism in the higher education sector, that is, lower-scored institutions imitate better-ranked institutions to



achieve higher standings. It is also argued that, to some degree, rankings have impacted university practices and organisational behaviours (Kehm, 2014, pp. 106–108). The notion of vertical differentiation between HEIs is also discussed by Simon Marginson and Marijk van der Wende (2007). They argue that most rankings emphasise vertical differences and thus conceal horizontal differences between institutions. In other words, it becomes more visible how HEIs differ in terms of their authority, but ranking users are not clearly informed about the differences in terms of organisational types and their purposes (Marginson and van der Wende, 2007, p. 326).

### Rankings: indicator for higher education quality

In 2020, the European University Association published the report *Exploring Higher Education Indicators*. It examines the validity and use of external indicators measuring quality or performance in higher education. In particular, the study analyses three types of measurements: international university rankings, external quality assurance, and funding formulae. Such indicators are of interest not only to HEIs themselves but also to other stakeholders. This report concludes that different measurement tools employ the same type of indicators and yet indicators are defined differently, thus changing the very nature of indicators. The report also addresses the data represented by each indicator. An indicator may highlight a certain aspect of an institution's performance, but such data should not be generalised and applied to the overall institution. Moreover, indicators cannot replace other more qualitative tools, such as peer reviews or performance contracts. Indicators should instead be used in combination with other qualitative tools. Finally, one should make sure what the indicator is measuring and whether the indicator fulfils its purpose (Loukkola, Peterbauer and Gover, 2020, p. 24).

### Rankings in the Nordic context

Mari Elken, Elisabeth Hovdhaugen and Bjørn Stensaker (2016) explore global university rankings in the Nordic context. They study fourteen research-intensive universities from Denmark, Finland, Norway and Sweden to understand how these institutions have responded to global rankings. The authors analyse whether values and norms related to institutional identities have been affected by rankings and whether universities have taken any actions or measures to improve their ranking placements. The study is based on a document analysis of strategic plans as well as interviews conducted with institutional leaders and members of the central administration. The authors conclude that global university rankings have

an impact on the Nordic higher education landscape, but it is not as substantial as in other parts of the world. Scandinavian universities focus on rankings by presenting ranking information on their websites. Some institutions even refer to rankings in their strategic plans, yet universities have a mild interest in rankings overall and do not intend to implement strategic actions that would improve their ranking placement (Elken, Hovdhaugen and Stensaker, 2016, p. 792).

In 2009, the Swedish National Agency for Higher Education (now the Swedish Council for Higher Education and the Swedish Higher Education Authority) published the report *Ranking of Universities and Higher Education Institutions for Student Information Purposes?* about higher education rankings and their information use amongst students. This report concludes that rankings may provide students with sufficient and necessary information about the higher education field although the entities representing rankings have predominantly commercial interests. Rankings can be used as a source of information. However, they should not constitute the only source because rankings represent a market-based perspective. Additional information sources presented by the public sector should also be sought (Swedish National Agency for Higher Education, 2009, p. 141).

## Rankings as sources of information

Global rankings can be seen as a source of information serving diverse target audiences. In her article 'One Size Fits All? A Different Perspective on University Rankings', Valentina Goglio (2016) investigates the users of rankings and their information needs. Rankings are usually addressed to a general recipient, although there are multiple user groups, each having different needs and attaching different value to information provided by the rankings. The recipients range between governments and elite and research-intensive universities to students and their families. It is argued that some of these user groups are better served, while other groups are overlooked by ranking agencies. In the matter of students and families, rankings should provide guidance for choosing an appropriate programme and should also offer information about teaching quality at each university. Many rankings, however, rely on research-dependent indicators, thus providing information that could be relevant for students at a later stage and not when they choose an undergraduate programme. Governments represent another user group which, according to Goglio, are overlooked compared to research-intensive and elite universities. It could be therefore stated that information provided by rankings is misleading, and not all user groups receive the same recognition. To

serve all users' needs, it is suggested to think in terms of plurality – to have multitude of rankings, each serving different purposes, functions and user needs (Goglio, 2016, pp. 223–224).

Rankings as a source of information are also studied in the exploratory study 'University Rankings as Information Source: Do They Play a Different Role for Domestic and International Students?'. The authors of this study (Fabian Koenings, Giovanni Di Meo and Silke Uebelmesser, 2020) examine the importance of rankings among domestic and international students. The authors also study the role of rankings in relation to other sources of information, such as universities, independent institutions, or advice given by alumni, teaching staff, peers, family and friends. The results suggest that rankings are relevant for both cohorts, although international students rely more on information provided by the ranking agencies. Domestic students acquire additional information from their peers and alumni, while international students, if at all, turn to their families and friends. Also, international students are in greater need of information on the quality of HEIs than domestic students (Koenings, Uebelmesser and Di Meo, 2020, p. 6441).

## University libraries and ranking results

Although rankings tend to rely on several indicators, it is shown that research productivity is imperative for different rankings (Buela-Casal *et al.*, 2007, p. 363). To measure research productivity, ranking agencies consult bibliographic and citation databases like Web of Science or Scopus. For a university to ensure that all its scholarly output is accurately represented in a citation database, it can be valuable to turn to the university library and request it to check bibliometric data in the database, which in turn may have an impact on the university's standing in rankings. For example, in a study on university rankings and institutional affiliations, Snježana Dimzov, Mirta Matošić and Irena Urem (2021) examine the significance of precisely rendered institutional affiliations in citation databases. Scholars affiliated with the same institution by mistake can use different institutional names. As a result, some publications may not be attributed to the respective university or faculty. Moreover, according to the authors, there is a correlation between a university's ranking result and publications indexed in citation databases. Since academic librarians have knowledge about the overall university's research output as well as citation databases, then librarians become an important tool for improving the university's visibility in citation databases (Dimzov, Matošić and Urem, 2021, pp. 7–8). A study conducted by Liz Bernal

(2019) reports similar results. University library can contribute to a better ranking placement by analysing bibliometric data on Web of Science and Scopus. The correction and update of institutional name variations as well as author profiles, can lead to better rankings results, especially in Leiden ranking, which is entirely based on bibliometric data (Bernal, 2019, pp. 124–125). The more the number of publications is of value for a university, the more significant it becomes for the institution to determine all its publications in citation indexes. To ensure that all publications are listed under the correct names, university libraries can suggest standard alternatives for institutional affiliations (Taşkın and Al, 2014, pp. 364–365).

In the study ‘The Contribution of the Library to the Reputation of a University’, Sharon Weiner (2009) examines the relationship between university libraries and university reputation. The results suggest that university libraries indeed play a role in shaping the university’s reputation. Moreover, it is determined that libraries can have an impact outside their departments, provided that the role of libraries is based on interactions with central university administration, faculties, students, and other external parties (Weiner, 2009, p. 10).

## Theoretical framework

This section discusses theoretical and conceptual understandings of knowledge management (KM). The first part is devoted to a general understanding of KM and its main concepts, whereas the second part presents a KM model that is used to conceptualise the empirical findings of this study.

### Knowledge management

KM is a relatively new discipline that emerged during the 1990s. When it comes to explaining KM, one might not find a universally accepted definition and it is largely due to the nature of the discipline itself. KM is a multidisciplinary field with its foundations in library and information science, sociology, anthropology, cognitive science, and organisational science, to name a few. The various definitions of KM originate from different disciplines therefore KM bears multiple meanings and its understanding remains fragmented (Jasimuddin, 2012, pp. 56–57; Dalkir, 2015, pp. 3129–3131). Some scholars have identified nineteen or more definitions (Hlupic, Pouloudi and Rzevski, 2002, p. 93; Jasimuddin, 2012, pp. 39–42).

In its most general sense, KM is described as “a conceptual framework that encompasses all activities and perspectives required to gain an overview of, deal with, and benefit from the corporation’s knowledge assets and their conditions” (Wiig, 1993, p. 18). That is, KM makes it possible to study how knowledge is acquired, stored, and distributed throughout an organisation. KM highlights the importance of knowledge in the process of improving both an organisation’s and an individual’s growth as well as productivity (Rubin, 2016, p. 396). To have an understanding of KM, it is important to be aware of the KM process. In the context of organisations, the KM process can be seen as a knowledge system consisting of a series of practices or processes. The most common of these are knowledge acquisition, knowledge creation, knowledge storage or retrieval, knowledge sharing or transfer, and knowledge application (Alavi and Leidner, 2001, pp. 116–121; Jasimuddin, 2012, p. 45). The second part of this section

discusses each KM process in more detail along with Gilbert Probst's (1998) conceptual KM model.

## The concept of knowledge

At the centre of KM definitions lies such concepts as knowledge, information, expertise, or experience (Hlupic, Pouloudi and Rzevski, 2002, p. 94). The concept of knowledge has been discussed by various scholars but without a definite resolution. Since KM is a complex and multifaceted concept, it is difficult to define it. Furthermore, KM's intangible nature facilitates multiple meanings (Nonaka, 1994, p. 15; Hlupic, Pouloudi and Rzevski, 2002, p. 92). For example, Thomas H. Davenport and Laurence Prusak (1998) write that knowledge can be seen as a combination of different aspects. They explain that knowledge is "fluid as well as formally structured; it is intuitive and therefore hard to capture in words or understand completely in logical terms" (p. 5). That is, knowledge, according to Davenport and Prusak "is as much an act or process as an artifact or thing" (1998, p. 53). In this study, knowledge is approached from the following definition:

[k]nowledge is the whole body of cognition and skills which individuals use to solve problems. It includes both theories and practical, everyday rules and instructions for action. Knowledge is based on data and information, but unlike these, it is always bound to persons. It is constructed by individuals, and represents their beliefs about causal relationships.

*(Probst, Romhardt and Raub, 1999, p. 24)*

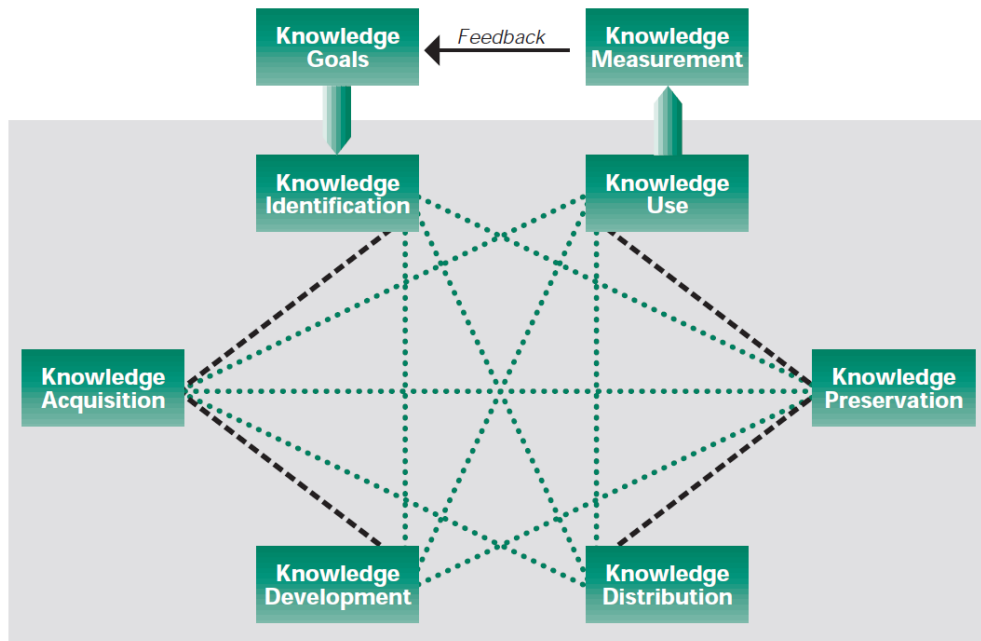
As this definition elucidates, knowledge is closely associated with data and information. These three concepts are often represented hierarchically, with data at the bottom, information placed above data, and in turn this creates knowledge. In the context of organisations, facts and events represent data, thereafter processed data becomes information and interpreted information constitutes organisational knowledge (Jasimuddin, 2012, p. 21). There is, however, another perspective on how the three concepts are intertwined. Ilkka Tuomi argues that hierarchical representation is bound to one-way interpretation – from data to knowledge – where data is a pre-requisite for information and information is a pre-requisite for knowledge. He believes that this conventional perception the data–information–knowledge relationship should be reconsidered and thus proposes a new reverse model where information is created when knowledge is in place and data emerges at the end. Simple facts, namely data, cannot appear unless someone has used its knowledge to create data (Tuomi 1999, pp. 103–107). Given that data, information, and knowledge are closely related concepts that can

either be represented in a hierarchical way or instead perceived in a reverse way, this work views the three concepts as context dependent. Circumstances define how knowledge is created and what its relationship to information and data is. Knowledge can be created when the necessary data and information are in place, but knowledge is also needed to establish facts and events, that is, data. This thesis also subscribes to the view that knowledge can take various forms; it can exist in an individual's mind or in an organisation's database, or an intranet (Hlupic, Pouloudi and Rzevski, 2002, p. 91).

### Probst's conceptual framework

There are a number of different theoretical frameworks conceptualising KM (*cf.* Demarest, 1997, p. 376; Newman and Conrad, 2000, p. 16-2; Nonaka, 1994, p. 19; Prat, 2011, p. 384; Wiig, 1993, p. 57). Since there is no single *correct* framework for KM, a model can be evaluated and selected based on the following principle: how useful is a chosen model in relation to a given question (Probst, 1998, p. 18)? Therefore, for the purpose of this thesis and its research questions, I chose to adopt and rely on Gilbert Probst's (1998) integrated model. It provides a comprehensible yet clearly structured and logical framework for analysing core KM processes in the context of Swedish universities and their perception and use of global rankings. The model is meant to provide a pragmatic approach for identifying and tackling knowledge problems in any organisation (Probst, 1998, p. 20). Even though the aim of this study is not to provide solutions to potential knowledge problems, this model is applicable to illuminate how gathered information from the rankings is incorporated into the university knowledge base.

According to this model (*see* Figure 1), the knowledge cycle can be seen as a combination of two circles: an inner and outer circle. The inner circle includes such processes as knowledge identification, acquisition, development, distribution, preservation, and use, while the outer circle embraces all of the aforementioned activities in addition to knowledge goals and measurement. The additional feedback loop between knowledge measurement and knowledge goals ensures that the necessary evaluations are in place and one can make interventions in the goal-setting process to proceed with the KM cycle (Probst, 1998, p. 19).



**Figure 1.** The Building Blocks of Knowledge Management (Probst 1998, p. 19)

This is an integrated model because all eight elements are interdependent or linked to each other. If one or several building blocks are neglected, then the entire knowledge cycle can be disrupted. This can occur, for instance, if one department in the organisation does not hand over information to another department. Alternatively, if certain activities within the organisation are not documented, those cannot be repeated and thus may gradually disappear from the organisational memory. The advantage of the model is that it provides a clear structure of KM processes. Thus, if one may need to intervene with the KM cycle, this model provides clear points of intervention (Probst, 1998, pp. 19–20).

Each block is now described separately by pointing out those processes and activities that are characteristic of each element. The first KM block is called *knowledge goals*. In this phase, one identifies the competencies and capabilities that the organisation already possesses and those that would be necessary to develop in the future. With the help of knowledge goals, the organisation defines what direction the organisational learning will take place. There are three types of knowledge goals – normative, strategic, and operational. The normative goals create an environment where individuals can share and develop their know-how. This makes the necessary foundation for effective KM. The strategic goals specify the organisation’s core capabilities and define the range of competencies needed in the future, while operational goals translate normative and strategic goals into actual objectives that can be implemented within the organisation (Probst, Romhardt and Raub, 1999, pp. 33–34, 66).



In the *knowledge identification* process, one identifies expertise within or outside the organisation. This involves analysing and reporting about the organisational knowledge environment. It is therefore crucial to keep a record of all internal as well as external data and skills. If the organisation fails to maintain an overall understanding of its knowledge environment, it loses a level of transparency, which might result either in uninformed or inefficient decision-making. Knowledge identification helps to determine whether internal and external knowledge are sufficiently transparent and supports potential users in their seeking process (Probst, 1998, p. 21; Probst, Romhardt and Raub, 1999, p. 30).

In the *knowledge acquisition* process, one deals with the external knowledge provision. The acquired knowledge should be as compatible with the organisation as possible, and one should differentiate between knowledge potential and directly usable knowledge. If certain expertise is acquired as an investment in the future, then one acquires knowledge potential. If, however, acquired knowledge can be used directly, then it can be viewed as an investment in the present. The organisation can bring in new expertise through various channels, such as external experts, stakeholders or through cooperation with other institutions (Probst, 1998, p. 23; Probst, Romhardt and Raub, 1999, pp. 126–127).

Knowledge acquisition is complemented by its following building block – *knowledge development*. This KM stage deals with those activities that can generate new internal and external knowledge in the form of new skills, competencies or more efficient processes. The ultimate goal of this building block is to establish capabilities that do not exist within or outside the organisation or have previously not been present in the organisation. The newly generated knowledge can be identified either on an individual or collective level. Consequently, two levels can be distinguished – individual and collective knowledge development. Individual knowledge development is based on creativity and systematic problem solving, whereas collective knowledge development focuses on team dynamics (Probst, 1998, p. 24; Probst, Romhardt and Raub, 1999, p. 31).

By virtue of *knowledge distribution* or *knowledge sharing* process, knowledge can be transferred inside the organisation. This building block is a key requirement to translate isolated but useful expertise into a valuable asset that can benefit the entire institution. It is important to determine who needs to be informed about what, to what extent and how knowledge distribution can be facilitated.

Information systems, for example, can ensure the efficient and timely distribution of knowledge across the organisation (Probst, 1998, p. 25; Probst, Romhardt and Raub, 1999, p. 164).

After knowledge has been acquired, developed, and shared, it should be preserved to avoid unnecessary loss. *Knowledge preservation* or *knowledge retention* ensures that acquired competencies are stored appropriately and thereafter integrated into the organisational knowledge base. The overall preservation process consists of three aspects – selection, storage, and updating. The storage itself can be done on various levels, for example, individual or collective levels. When it comes to the individual level then the organisation can encourage its employees with key know-how to remain in the organisation. Such encouragement or incentive can be displayed via material or nonmaterial actions. On the collective level, knowledge can be developed and stored through a wide range of methods, such as developing collective language (words or expression characteristic within the organisation) that is used in a group discussion and thereafter documented and recorded in minutes (Probst, 1998, pp. 26–27; Probst, Romhardt and Raub, 1999, p. 240).

*Knowledge use* or *knowledge utilisation* represents the ultimate purpose of KM. It is not enough to acquire or assemble knowledge, it should also be made available and used. This phase can therefore be seen as the implementation process of organisational knowledge, where knowledge is converted into results (Probst, Romhardt and Raub, 1999, p. 214). Although, the problem lies in the fact that even if one has identified and distributed knowledge, it does not always mean that such knowledge will be implemented and consistently used within the organisation. The potential user must recognise the benefits of such knowledge and have the correct working environment in order to implement it in the organisation's daily activities. It is imperative to ensure that individuals and groups can use knowledge to their benefit in an environment that encourages such behaviour (Probst, 1998, p. 26; Probst, Romhardt and Raub, 1999, pp. 32, 204).

The last element in the model is *knowledge measurement* or *knowledge assessment*. In this stage, organisational knowledge is evaluated. Since one should be able to assess knowledge, it is one of the most challenging aspects of KM. The value of knowledge is context-dependent; it is related to certain circumstances, situations, and individuals. Knowledge cannot be recorded directly with certain precision and therefore complete objectivity is not possible, instead one may refer

to estimations (Probst, 1998, p. 27; Probst, Romhardt and Raub, 1999, p. 244). At this stage, one evaluates KM activities and how those have been carried out. Knowledge goals play an important aspect in this process. The way in which goals have been formulated determines how they can be measured and evaluated (Probst, Romhardt and Raub, 1999, pp. 34, 266).

Since the theoretical framework has now been established, the way in which KM applies to this study can now be clarified. Whenever referring to available data on respective international ranking web pages (e.g. ranking results and methodology descriptions), I define it as information. Decisions made in relation to, or interpretation of, such information are viewed as knowledge. As noted earlier, I subscribe to the view that knowledge can take various forms and it can be both a process, or an object and a thing. Moreover, knowledge creation is context-dependent, and circumstances determine how knowledge is related to data and thereof information.

# Methodology

In this section, I outline the choice of research method and describe how empirical material was gathered and further analysed. Ethical considerations and study limitations are discussed at the end of the section.

## Data collection

The empirical data were collected through six semi-structured interviews with seven interviewees. This form of interviewing was chosen because it develops a conversation in a systematic and organised way, and simultaneously provides the interviewer with a certain freedom. The interview questions can be adjusted and somewhat changed during the course of the interview, thus allowing the interviewer to pose follow-up questions that were not added to the interview guide in the first place (Luo and Wildemuth, 2017, p. 294). The nature of semi-structured interviews, in other words, enables the interviewer to digress from the interview guide to obtain the best data from the interviewee (Clark *et al.*, 2021, p. 433).

The interviews took place from mid-February to mid-March 2022. All of those were held remotely via Zoom and lasted between thirty minutes and one hour. The respondents were contacted via email, and asked if they would like to participate in an interview. Those who expressed an interest to receive the main interview themes beforehand (*see* Interview Guide in Appendix I) were able to get those a few days before their interviews were scheduled.

The respondents were selected with the help of purposive sampling. According to this form of sampling, the participants are chosen strategically based on their expertise, previous experience as well as kind of information they may provide. When sampling, the researcher keeps in mind the research question and adjusts inclusion, or for that matter, exclusion principles accordingly (Clark *et al.*, 2021, p. 378). I therefore selected and contacted nine Swedish universities (to be more precise, I contacted bibliometricians) that had published on their websites

information about international rankings and their standings. The universities varied in size and focus because I wanted to ensure a variety in the resulting sample. Some of them were large and some were medium-sized institutions. In addition, some of the universities were comprehensive (i.e. multi-faculty universities), whereas others were more specialised in certain fields. Out of nine universities, three universities were either not able to participate or did not reply to the enquiry, while six universities replied positively. One university was represented by two respondents, so in total seven respondents from six different Swedish universities were interviewed.

The respondents have worked with international rankings to a various degree for at least three years or have done research in the field. The interviewees take various positions in their organisations (*see* Table 2). They work as bibliometricians, analysts or conduct research in bibliometrics. Some of them are affiliated with respective university libraries, and some with university management. The majority of them have previous experience working with bibliometrics while those, who do not work directly with bibliometrics, collaborate with their colleagues who have the necessary expertise.

**Table 2.** Overview of the interviewees

<i>Interviewee</i>	<i>Work position</i>	<i>University size*</i>
respondent A	bibliometrician	larger
respondent B	analyst	larger
respondent C	analyst	average
respondent D	bibliometrician	larger
respondent E	analysts	larger
respondent F	researcher	average
respondent G	analyst	average

\*Estimation based on the number of enrolled students in first- and second-cycle education in the academic year 2019/2020 (Swedish Higher Education Authority, 2021, pp. 78–79).

## Transcription

All interviews were audio-recorded and thereafter transcribed. The transcription process consisted of two steps – to use the transcription tool Konch to generate interview transcriptions and then to edit each transcription manually. Even though Konch provided relatively accurate and precise transcriptions, those were not without syntactic and lexical errors. For instance, *Times Higher Education*

appeared as *kind of higher education*, while *bibliometric* occurred as *bet the metric*, *bigger metric*, *video metric*, *people metric*, *deal metric* and in some instances *QS* came up as *kuti's*, *curious*, *queue*, *QC* or *Q as*. Every transcript was edited manually to improve its accuracy in relation to the actual recording.

Generally, people tend to speak in not fully formed sentences. They may repeat themselves or have verbal tics when they use certain words or phrases repeatedly. So to enhance the overall understanding, one might consider editing such instances without paraphrasing the speaker (Clark *et al.*, 2021, p. 443). Apart from making sure the transcripts were accurate lexically and syntactically, I also edited transcriptions from fillers (e.g. *like*, *hmm*, *uh*), repeated words or phrases as well as sentences that were started and left unfinished. Since the transcripts were not meant to be used for linguistic analysis rather than to aid understanding of global rankings in the context of Swedish higher education institutions, then this type of alternations were justified. Moreover, Steinar Kvale and Svend Brinkmann (2009) explain such modifications by referring to the transcription process as a translation from one narrative mode (oral discourse) to another one (written discourse) which eventually involves a series of choices and decisions to be made (p. 178).

## Data analysis

Qualitative content analysis was chosen to analyse empirical data. This approach is used to identify unique themes within a certain content. The themes or categories characterise a phenomenon and are used for describing a social reality in a specific context (Zhang and Wildemuth, 2017, p. 328). The interview transcriptions represented the specific content, which was further analysed to identify central themes. There exist various techniques as to how to identify thematic categories, but all involve four tasks – to establish themes and subthemes, to discern which themes are relevant for the study, to arrange themes in hierarchical orders, and to connect themes to theoretical models (Ryan and Bernard, 2003, p. 85). To establish the main themes and subthemes, I read closely each interview transcription several times and examined the so-called repetitions, similarities and differences (Ryan and Bernard, 2003, pp. 89–91). That is, I analysed which topics were reoccurring or which topics were described similarly or, for that matter, differently by the respondents. The identified themes were subsequently grouped into seven thematic categories: general work with rankings, the role of rankings in the Swedish context, common perceptions, monitored

rankings, observation of the results for other universities, analysis and documentation, use of ranking results.

## Ethical considerations

All respondents received by email a consent form (*see* Appendix II) describing how their personal data would be collected and processed. Each of them signed the form and returned it electronically. In order to protect participants' privacy, it is a common practice to use fictitious names and change some of the participants' characteristics (Kvale and Brinkmann, 2009, p. 272). To ensure respondents' anonymity and privacy, I did not include the respondent names, nor did I explicitly list what organisations they are affiliated with. In addition, any identifying elements were taken away from the quotes presented in the section of Empirical findings. As a result, the respondents were coded and appear in the study as a respondent A, B, C, etc.

## Limitations

Fundamentally, qualitative studies tend to be interpretive. Those represent the researcher's theoretical as well as personal understanding of the researched phenomenon (Zhang and Wildemuth, 2017, p. 323). Having this in mind, this work does bear an interpretative characteristic, but I have attempted to describe the analysis of empirical material from the knowledge management perspective as explicitly as possible, in this way upholding the validity and reliability of the study.

## Empirical findings

This section introduces the study results, and it is divided into two parts. The first part provides a general understanding of how respondents perceive and work with rankings, as well as how they describe ranking relevance in the context of the Swedish higher education sector. The second part gives a more nuanced account of those aspects respondents encounter in their work.

### General work with rankings

The overall work with rankings could be summarised in the following way – respondents collect necessary data about their universities (e.g. institutional income, the number of students or staff) to submit it to ranking providers (albeit not all ranking agencies require HEIs to submit data). The data collection process tends to involve a group of people – someone from the university library, economics or IT department – because collected data consist of different datasets and it may require several departments to compile such data. When ranking results are announced, universities analyse their performance and subsequently describe their findings in the form of a report. Such documentation is further disseminated throughout the organisation, the main recipients of which are the central university administration, university board and faculties. Usually, the information dissemination process is followed by discussions with the management. However, that is not always the case for all universities.

Out of seven respondents, six work directly with rankings in the capacity of bibliometricians or statisticians while one respondent conducts research in bibliometrics and takes a scholarly interest in rankings. Some of the respondents are affiliated with university libraries while others are associated with other university units, often those are related to university management. It is interesting that universities have found various solutions as to who is responsible for monitoring and evaluating rankings. When asked whether there is an explanation for such altering solutions, one respondent clarifies that work with rankings



involves different types of data and therefore it is not clear which department should be in charge of the task.

It's hard to find the most appropriate home for these issues because it concerns publications and citations, and that's something that the library or sometimes the planning department works with, but usually bibliometricians aren't that comfortable working with staff data or student data. That's more like working with the economy here [...] so that's probably the reason that the ranking isn't dealt with the same way in different universities.

*Respondent D*

Rankings constitute merely one of the respondents' tasks and typically they devote approximately 10–20% of their time to it, only one person describes that his/her work with rankings constitutes closer to 40% of the total work time. Generally, respondents supervise data collection and submission to the ranking proprietors as well as conduct analysis and distribution of the results within the corresponding organisations.

## The role of rankings in the Swedish context

Several respondents report that the importance of rankings differs in various geographical regions. Certain countries are more prone to rely on ranking results and use those as relevant filtering tools more than other countries. For instance, the United States, United Kingdom, Australia and China are named as some of those countries where there is an elevated interest in rankings, while Sweden appears to be on the opposite end. The total number of HEIs in a country and student mobility are some of the aspects defining ranking relevancy in a country. Since Sweden has less HEIs compared to countries like China or the United States, then it has a direct effect on how students choose a university to study at.

[I]n the US, there are a lot of universities and lots of students. The mobility is really large. So students are easily moving from one part to the other part of the United States. In Sweden, there are maybe 40 higher education institutions [...] So I think it's totally different how people choose. So I'm not sure if [ranking] has any effect in Sweden, no one really looks at [ranking], but international students might look.

*Respondent A*

The respondent further explains that in the United States there are thousands of universities while in Sweden there are a few dozens, some of which are quite large and some small. So then, it becomes somewhat pointless to make comparisons (in the form of a ranking) between so different institutions.

In Swedish society, there seems to be a clear understanding of those universities that are old and comprehensive, or those that are subject-specific, or those

constituting younger and smaller institutions. “It doesn’t really matter what numbers they have or what rank they have because we already know where they are”, tells respondent F to illustrate the perception of HEIs in Sweden. The fact that those are state-funded is another reason why rankings do not affect universities as much as they appear to do in other countries.

[W]e are state-funded, it doesn’t matter for our state funding how we perform really, or it’s very long from how we perform in research until the government can do something about it. And so I don’t think that it has the same importance in a country such as Sweden compared to other countries.

*Respondent F*

The Swedish higher education sector is also characterised for its notion of quality and university co-operations. There has been “an aim for many decades that the education should be rather equal between the universities”, says respondent C. Respondent E provides an analogous description of the sector by explaining that Sweden has a long tradition of viewing university education as equally qualitative across the sector. It is therefore not common to compare organisations and think of those in terms of *excellent* and *poor*. In fact, to be able to make comparisons between universities, one should have a preconceived idea as to what status the institution has. Yet, according to respondent E, the status hierarchy is not quite explicit in the Swedish context:

I think for [rankings] to work, they have to be able to build on some kind of pre-existing status hierarchy between institutions. And there isn’t a strong status hierarchy. So then when they come up with their results, people say, why? No, I don’t agree with that at all. That’s not my view.

It is evident that the need and use of rankings may differ across countries depending on how the higher education sectors are formed. The way society views HEIs may also have an impact on whether comparing and ranking universities becomes a customary approach in the field of higher education.

## Common perceptions

The prevalent idea is that rankings are relevant for the universities, to some extent, although those should be perceived with considerable caution and certain limitations. When a respondent is asked about ranking relevancy, the response balances between an aspiration to be ranked and a partial detachment from rankings.

They are relevant because it does matter which position [university] gets, but they are not sort of steering our strategic decisions. So they are relevant. We want to come out as good

as we can, but we're not going to start working differently the whole university just to come out better in the rankings.

*Respondent B*

Other respondents are of a similar opinion – since rankings affect universities those automatically become somewhat relevant but in the matter of the overall university performance evaluation or quality assessment, rankings are not regarded as appropriate or sufficient measurement tools.

They're relevant because they affect us. People talk about rankings, and we need to be there, and we need to be able to answer questions [...] We don't use them as a benchmarking thing or any way of assessing our own performance.

*Respondent E*

Respondent B shares this viewpoint and says that he/she does not consider rankings to be “a clear-cut quality measurement” and instead prefers “to have other ways of measuring [the] quality and [to] address the issues that arise from those measurements”.

How university management perceives rankings is a reoccurring theme in all interviews, most likely it is because top administration can determine what direction an organisation will take in a certain subject matter. For example, the current management of one university is not overly enthusiastic about rankings and therefore does not wish that extra work would be invested into this area. The interest, however, may change in a few years depending on the priorities of the management.

[T]his goes in waves, and every few years or five years it becomes more interesting and then the management will want to see some comparisons, and then they understand that it's probably not that interesting and [...] the interest ebbs for a few years.

*Respondent A*

Another university's administration is not too invested in rankings either – it does not want to be affected by them yet prefers to stay informed about university's placements to attract prospective students and recruit potential staff members. The perception of rankings at this university has shifted over the past ten years or so. When global rankings emerged, it created momentum, which gradually has decreased.

In the beginning, people were kind of scared and surprised. They didn't know what it was. So then they were very interested. And I spoke a lot with the university management then. Now everybody in the sector has kind of calmed down. They know more about the rankings, and they don't worry so much. And also that the journalists outside the sector are not quite as impressed anymore.

*Respondent E*

The respondent further adds that the university management knows enough about rankings and their problematic areas not to be troubled by fluctuating results over the years, and instead uses rankings as a marketing tool whenever appropriate. This approach, namely, to use rankings for marketing purposes, appears in other interviews too.

I think that our university and most universities in Sweden don't consider rankings to be a clear measurement of quality, but rather could be used as a way of attracting international students and researchers.

*Respondent B*

The situation in yet another university could be described more as a shift from *less interested* to *more interested*. Previously the university was ranked higher than the current results suggest, therefore the administration was in a position where it did not need to pay too much attention to the rankings because the results were agreeable. Nonetheless, the university has scored lower in the ranking results and hence a greater interest has emerged. Compared to the previous years, the university is committed to working more strategically around rankings. Respondent B explains: "I think the interest has increased now the past year. So that's taken a lot of time to discuss with the management and to present the results at different meetings and so on". Respondent C, on the other hand, describes his/her university's interest as rather stable and consistent though stakeholders may have an effect on how the university relates to rankings. Researchers are namely not interested in rankings whereas students might have a greater appreciation and use of them. "[T]here are stakeholders around the globe who actually look at [rankings] and are interested, like international students, journalists and funders, some private funders. Then it becomes important to us", explains respondent C.

Despite the fact that the interest in rankings fluctuates over time, it does not seem that this phenomenon might retreat from the higher education sector any time soon. Respondent E believes that rankings providers are doing well and there is a need for such tools even though those might not be very sound. The respondent says:

they're doing well, they're expanding, they're creating new rankings and they seem to be [...] doing well with it. And there's definitely need for those kinds of instruments, even though the ones we have are bad. They're not going to go away because there's nothing better to replace them.

Having highlighted some of the predominant opinions and perceptions among the respondents in relation to rankings, I further report how the actual work is carried out at different universities.

## Monitored rankings

Universities mainly monitor three rankings, namely, ARWU, QS and THE, including their subject rankings:

- Shanghai Academic Ranking of World Universities and Shanghai Global Ranking of Academic Subjects;
- QS World University Rankings and QS World University Rankings by Subject;
- THE World University Rankings, THE World University Rankings by Subject, and THE University Impact Rankings.

The prevailing view is that ARWU, QS and THE are well-established and recognised worldwide among various user groups. Other rankings, such as Leiden ranking and U.S. News, as well as its subject ranking, are also followed but to a lesser extent because they are not regarded as impactful as the three other rankings. With regard to Leiden ranking, some believe it is the most *scientific*, whereas others consider it a database rather than a ranking. For example, respondent B mentions that bibliometricians consider Leiden ranking to be the most relevant for their university, whereas respondent C perceives it more as a database. In the case of U-Multirank, respondents are of a similar opinion. They believe that U-Multirank has not received the intended breakthrough. It appears to be somewhat complicated to use and not many follow this ranking. Respondent E explains it by saying:

it didn't really work out so well with U-Multirank, and most importantly, no one reads it. I understand that because it's much too complicated. That's kind of the idea with U-Multirank that it shouldn't be, it shouldn't simplify things. But that means that it requires the user to understand something.

Even though the intention has been to create a ranking that would not simplify the complexity of HEIs and their work, this ranking unfortunately has not been successful in sustaining interest for it. Respondent C clarifies that monitoring and analysing U-Multirank results is time-consuming. This ranking “doesn't provide very obvious results, and it's difficult to interpret, and it's time consuming and requires a lot of administration. So it's a matter of resources”. Webometrics, according to the respondents, is another ranking that has received less attention over time. Some even pinpoint that the indicators employed by this ranking are

difficult to understand, the same could be said about the results of this ranking. The interviewees report that sometimes they decide to discontinue their monitoring process of certain rankings. In the case of THE impact ranking one of the respondents tells that his/her university was following this sub-ranking and participated in it one year, however, it was not easy to comprehend the indicators and it took time and resources to collect the necessary data for submitting to the ranking provider. In addition, it was difficult to interpret and analyse ranking results, so a decision was made to discontinue participating in THE impact ranking.

Overall, there is a certain schedule or a cycle throughout the year when it comes to rankings. Respondents know when collected data from their universities should be submitted to ranking providers and when the results are published. They can thus plan their work around these deadlines. Several respondents report that at the beginning, when they were introduced to this kind of work, it took a lot of time to select those rankings that would be followed (unless it was already decided which rankings would be monitored) as well as to prepare and collect necessary data. Now everyone has developed their own routines (or are in the process of organising their approach) and so the overall work has become less demanding.

## Observation of the results for other universities

The majority of respondents follow ranking results of other universities. It can be relevant to analyse other universities because “there can be some kind of explanation of whether other similar university goes in the same direction, then we have something in common. So that’s also a part analysis” says respondent G and adds that ranking results might change over time due to the increasing number of ranked institutions. “There are more universities in the rankings. So one explanation where things change, can be even more universities participating in the rankings” explains the respondent.

There are different approaches to decide which universities should be observed. Respondent E explains that it can be meaningful to monitor how other Swedish universities perform in rankings because when the results are published not all datasets are available and therefore it is difficult to make any estimations why a university is ranked higher or lower in a specific year. Comparison is an important aspect for further analysis because it can provide some insight into understanding ranking placements.

You don't get the whole set of data so you can't make a proper analysis. But what you can do is, OK, all the other Swedish ones also dropped. In that case is probably some kind of systematic thing that happened in Sweden. You can try to figure that out.

*Respondent E*

Another respondent explains that there is a tendency to keep an eye on the results of universities both within and outside Sweden. In regard to Swedish universities, the major focus lies on the highest ranked universities, whereas for European universities other principles are applied – to follow partner institutions or those that are comparable with the respondent's university. Respondent B explains:

we compare ourselves with the best Swedish universities or those that come out best in these rankings [...] And then I do comparisons with other universities in Europe as well, and those are mainly the universities that we are collaborating with and think that we are somewhat comparable with.

The principle of comparability is applied at other respondents' universities too. According to respondent D, his/her university has chosen to follow a few European universities to benchmark against. Those universities are having similar conditions and potential to perform, and they are also of comparable size and based in countries with similar political environments. Respondent C tends to look at universities having similar departments regardless of whether those are bigger or smaller universities compared to the university he/she is affiliated with.

## Analysis and documentation

To distribute analysis of ranking results, respondents tend to draft a report, which is spread within the organisations and to other interested parties. Generally, respondents report that they try to analyse ranking results as quickly as possible to ensure the central university management has the necessary information, if external parties ask them to comment on the ranking results.

According to respondent D, there is a rather outdated communication plan steering communication processes. Although that document is not being followed, there is an intention to draft a new unified strategy for how to communicate around rankings. The analysis of ARWU, QS or THE results are spread to the university management as well as faculty deans. It tends to be a 1-2 page document about the rankings, the results and the development of various indicators. This analysis is an internal document that is used by the university management if the media, for example, contacts them and asks for some comments.

Respondent A says that university spreads results of the newest rankings in a newsletter that is circulated to the university employees, while respondent E tends to make a brief analysis of ranking results and publishes it on the university's website as well as forwards the link to the university management, university board and others interested in ranking results. There is also an email list that the respondent uses to spread ranking results among its subscribers – a group of people both within and outside Sweden, including bibliometricians and analysts, as well as experts from other fields. The problem with web information, however, is that it can essentially disappear. Therefore, if a more thorough analysis is done, respondent E tends to draft a report, registers it at the university registry and shares a PDF file within the university. If the results are positive, the management usually is glad to spread the news further, get the good attention and use ranking results as a marketing tool. Overall, respondent E explains that transparency and openness are fundamental aspects when it comes to spreading information about ranking results. "I'm not interested in making secretive stuff here. So it's just better to be open or transparent", says respondent E.

Respondent C says that the results are communicated with the top management and a number of various departments via email. When the university receives ranking results, the team discusses with the communication department to understand whether it is something worth communicating outside, that is, to publish on the university's website. In a similar vein, respondent B presents ranking results to the university board and deans. Although, the respondent also acknowledges that currently there is an attempt to illuminate the results more thoroughly throughout the whole organisation. The respondent typically writes a report when rankings launch their results:

a short report looking at our position and normally looking at the other universities in Sweden to see are we following the same trend or is there deviation, and look at the indicators to see why are we coming out better or why are we coming out worse. I write a report to the board or [...] the management every time we get a result. And if there are certain things that need to be raised, like, for example, our citations the past years have come out really badly then we can raise the discussion about that, why is that. And together with my colleague who is working with bibliometrics.

The report tends to be 2–4 pages long (there is an intention to write a more thorough report annually) containing information about each indicator in ARWU, QS and THE, and its results over the past few years. The report also includes a comparison with other Swedish universities. This type of document is available internally, that is, the report is not spread outside the university and the respondent is not sure whether it would be interesting for someone outside the



university. The report is emailed out to management as well as faculty representatives. The information also appears on the university's website in the form of news. The intent is to write a report as soon as ranking results appear because the university management could receive questions from the media.

If we come up with a good position or if we dropped several places, [university management] might be interviewed by the local media. So I try to write this as soon as the results come out so that they are prepared in case there are questions about it.

*Respondent B*

In the matter of sharing information about rankings results on various Swedish university websites, respondent A explains that universities choose to publish and promote their standings differently. The respondent makes an observation about other universities and how those present ranking results online by pointing out:

I did some kind of internal research to look at other universities, other Swedish universities, what do they publish on their homepages about rankings, and it was obvious that there are some differences. Some universities are more detailed or try to be more scientific, bibliometric about it, and some others are really cautious.

Some of the universities, in other words, might have a more pragmatic view of rankings when they communicate their standings on the websites. Such institutions might add an explanation that ranking results should be regarded with a slight scepticism, thus raising awareness of the more critical aspects of the rankings. Other universities on the other hand might be more meticulous to highlight their standings according to different indicators.

It is evident that universities document their analysis of the ranking results in some form of a document, usually a report. As long as the document is filed at the university registry or stored in a way that it is available for future use, all documentation can be retrieved. The challenge nonetheless lies in the fact that not all information, and thereof knowledge, is available in the documentation itself. A specialist working with rankings develops certain expertise and skills over time. For instance, respondent D tells that previously at the university there was a person responsible for data collection for ranking proprietors. The person is no longer working in the same capacity and hence all knowledge the person was possessing is missing. The respondent explains that an organisation might find itself in a vulnerable position if a specialist discontinues its employment. Now there is an attempt at the university to document every step of collecting and reporting data to QS and THE to make it easier to repeat the same procedures in the upcoming years and to ensure that the expertise remains documented and available within the organisation.

## Use of ranking results

The fundamental assumption is that ranking results should not steer any strategic decision-making at universities. When I pose the question of using and implementing rankings results in the corresponding HEIs, respondents explain that university administrations believe it is vital to present ranking results but those should not have any further effects on the universities. “I don’t think there’s any decision at the management level which is done because of the rankings right now. But as I said, it might change” tells respondent A. Another interviewee is of similar opinion, namely, respondent G explains that rankings can be important for people to look at when they consider a certain HEI and yet there are certain insecurities around rankings and therefore ranking results should not be used for strategic decisions. Respondent G says, “we shouldn’t use rankings to build strategic decisions, but we need to have them in mind and follow up on them. So we need to live with them”.

Even if university management would want to focus on scoring higher and thus take necessary actions to improve the university’s overall placement, it is rather unlikely that the university would make such a strategic choice. Suppose a HEI would consider taking measures to improve ranking results and would decide to hire highly cited researchers to increase the citation rate for the university. As it turns out, to take such an action can be misleading because:

even if you hire a person that is or was highly cited before it, you cannot know that this person will continue to publish highly cited articles. So you don’t know that this person would actually help you to race in the rankings, so to speak.

*Respondent F*

The more universities become familiar with rankings and their flaws, the more they understand that strategic decisions based on rankings might not be the road to take, explains respondent E, and adds that rankings can be seen as a proxy to reputation:

if people don’t know the [university] and they hear about it, so they look up in the rankings and they see, we’re about there. That works as a reputation [...] I suspect that university management are aware of that and that they are thinking about it, but I don’t think they’re doing anything about it. It’s hard to do anything about that.

Two universities are at the moment in the process of managing and strategizing their work around rankings. For that purpose, one of the universities is having a two-year project with an aim to develop a ranking strategy and lay out a plan on how to approach rankings in the future. “When there are things, we can do that

contribute to our overall goals and values and they also contribute to rankings, then it's something we should go ahead with", tells respondent D.

Whenever universities are ranked lower in the overall or subject rankings, respondents have either a discussion with top management or respective faculties. Respondent C says that if the university receives subject ranking results and there are substantial changes then the team working with rankings contacts the responsible departments and has a discussion with them to see whether these changes are relevant and grounded. However, ranking results generally do not affect any strategic decision-making. Similarly, respondent B describes the situation at his/her university. The respondent tries to raise and examine what might have caused a lower position within a certain indicator and says, "when [...] we're dropping many ranking positions within one indicator and it's throughout all the rankings, then I will, of course, try to point this out to the management". Respondent B further explains that various rankings measure differently but if all rankings present similar results, then university might need to consider why that might be the case.

[W]e are sort of starting to work more strategically with rankings and to have it more throughout the whole organisation and not just to be a one person sitting there and monitoring the results and reporting in.

Ranking results might be used for various purposes and at the same time their use might also be of limited range. Respondent F suggests that ranking results are not only used to compare HEIs at top management level, but might also serve for a range of rhetorical purposes.

[Ranking results] are used in very different ways, not just as the way that you compare at the vice-chancellor level between universities, but also they can be used in rhetorical ways at different levels. For example, [...] when you want to show that your department is performing well as opposed to other partner universities or when you want to attract the doctoral students or students.

*Respondent F*

Having presented the main empirical findings here, in the following section, I discuss further the results in relation to the chosen theoretical approach and previous literature.

## Analysis and discussion

In this section, the empirical findings are analysed in the light of Probst's model and further discussed in relation to previous literature. As noted in the section *Theoretical framework*, by defining the KM building blocks, one is able to identify and structure the overall KM process into logical and sequential elements or phases. Thus, to analyse how universities work with global rankings and disseminate knowledge about these evaluative systems throughout the respective organisations, this section is structured in line with the conceptual model. Probst distinguishes eight different processes in the KM cycle; however, not all of these processes or elements were identified in the empirical findings.

### Knowledge goals of the work with rankings

The moment an organisation defines knowledge goals, it fundamentally determines in what areas KM activities will take place. In other words, the organisation decides what competencies it would like to develop (Probst, 1998, p. 20). When universities decide to follow and monitor a number of rankings, such action can be defined as knowledge goals because universities thus recognise the need for additional knowledge in the area of global rankings and simultaneously establish the sources of required knowledge. The choice of monitored rankings is largely based on ranking reputation, namely, whether the ranking is well-known and widely consulted. Another aspect the interviewees mention is ranking indicators and results. They take into consideration to what extent indicators and thus ranking results are understandable and plausible. It is common to pay attention to the objectives and methodology of a given ranking in order to assess and determine the importance of said ranking. HEIs also tend to examine whether ranking indicators are relevant and meaningful in relation to their organisations' purposes (Hazelkorn, Loukkola and Zhang, 2014, p. 45).

According to the respondents, universities have chosen to monitor ARWU, QS and THE, including their subject rankings. In addition, some universities show an interest in Leiden ranking and U.S. News ranking together with its subject ranking. There used to be a considerable interest in U-Multirank (Hazelkorn,

Loukkola and Zhang, 2014, p. 26); however, respondents explain that this ranking has not received considerable attention and does not appear to be impactful. Thus, some of the respondents report that they no longer monitor U-Multirank. Those rankings that are considered influential according to the respondents correspond with the findings of previous studies. Specifically, ARWU, QS and THE are among the most consulted rankings (Hazelkorn, Loukkola and Zhang, 2014, p. 26; O’Leary, 2017, p. 67). It is unsurprising that universities choose to monitor several rankings. In fact, it would be counter-productive to attempt to select the single best ranking among the others because each ranking provider fulfils different functions and accommodates various demands. A variety of rankings should be welcomed to avoid the “imperative of a single winning model” (Goglio, 2016, pp. 223–224).

Knowledge goals should be incorporated into an organisation’s strategy (Probst, 1998, p. 29). However, if an organisation decides to align its policies and strategies with a certain ranking, then that organisation would need to consider all the implications for doing or not doing so (Hazelkorn, Loukkola and Zhang, 2014, p. 45). Empirical findings indicate that universities do not align their strategies with rankings. It is, in fact, the opposite: the prevalent idea is that rankings should not influence the work of universities. At present, two universities are considering working with rankings more strategically. One university is currently undertaking a two-year project to specify its work with rankings, while the other university is preparing to carry out a somewhat similar project in the future. Since none of the projects were finished at the time of writing this thesis, it is impossible to determine to what policies these projects will lead.

## Knowledge identification process

During the knowledge identification process, an organisation identifies what knowledge and expertise it does and does not possess. It is vital for the organisation therefore not to “lose track of their internal and external data, information, and capabilities” (Probst, 1998, p. 21). The notion of knowledge identification in the case of ranking monitoring could be described as the process of looking up the results published by various ranking proprietors. This process also involves determining which sub-rankings and indicators are relevant for observation. Since universities tend not only to see their own results but also to study how other universities have been ranked, it becomes part of the knowledge identification process. Following other university results and being aware of their performance has been reported as a common practice, especially among the

universities sharing similar profiles. It could be said that rankings have become a source of information for HEIs, especially with regard to the global higher education scene, because institutions tend to be familiar with other universities and their performance nationally but less so internationally. HEIs also monitor other institutions to establish and maintain national or international collaborations, including student exchanges (Hazelkorn, Loukkola and Zhang, 2014, p. 36; Elken, Hovdhaugen and Stensaker, 2016, p. 793).

Respondents state that they follow universities that are somewhat comparable in terms of their size, profile or location (e.g. universities located in similar socio-political or economic environments). Another approach is to monitor top-scoring universities. There is a tendency for HEIs to select a number of institutions, nationally or internationally, which they either deem to be similar to their own organisations or to be close competitors. Thereafter, universities follow the set of selected institutions – what rank these institutions have been assigned and how the institutions perform on different indicators. To what extent such knowledge is being used is unclear. However, such knowledge provides university management with some understanding as to how their institutions are positioned in comparison to other HEIs (Hazelkorn, Loukkola and Zhang, 2014, p. 48). Empirical findings also imply that universities follow other institutions to acquire knowledge of overall tendencies – if a given university is ranked lower and the same can be observed among other comparable universities, then it might indicate that a systemic change has occurred. For example, rankers may have changed their methodologies, or other contributing factors might have occurred and contributed to the overall tendency.

Previous research shows that some universities choose to use additional services provided by the rankers. Such services are fee-based and grant universities access to more customised data, which some of the universities find helpful (Hazelkorn, Loukkola and Zhang, 2014, p. 48). The respondents also describe the option to take advantage of fee-based services although none of the respondents have used such services before and do not see any indications from central university management that this will change in the future.

## Knowledge acquisition from rankings

Knowledge can be acquired through a number of different channels – through organisations holding necessary knowledge or through stakeholders and experts (Probst, 1998, p. 23). Universities receive knowledge from rankings by collecting

published standings, by networking with analysts or bibliometricians affiliated with other universities or by participating in seminars and other events held in relation to global-ranking issues, some of which are organised by the rankers. That is, knowledge can be obtained from individuals or expert groups via structured media, such as different types of documents or through personal contacts with other individuals (Davenport and Prusak, 1998, p. 6).

All of the respondents have worked with rankings for at least three years, some of them even longer. The fact that the work with rankings took substantial time and effort when they first began working with this task, is a common answer among the interviewees. The task itself no longer requires as much time and concentration. In order to acquire new knowledge and thus develop expertise in a certain area, one needs time and experience. Knowledge or experience can be obtained over time because experience itself renders what one has accomplished and encountered in the past (Davenport and Prusak, 1998, p. 7). Each ranking agency imposes a deadline for HEIs to submit necessary data (although not all agencies require data submission from HEIs) and announces when the results will be available for everyone to review. The interviewees report that throughout the year they plan their work around these deadlines.

## Knowledge development process

The knowledge development process includes those activities that help organisations produce new knowledge – both internal or external knowledge, either on an individual or collective level (Probst, 1998, p. 24). The actual analysis of ranking results could be regarded as an example of a knowledge development process. During this process, analysts and bibliometricians study results from a given ranking for a specific time period and compare those with previous years. Such analysis involves not only reviewing the overall university placement in a European or global context but also assessing university performance within specific indicators. University results within individual indicators can be compared either to the results of previous years within the same ranking or to the results within several rankings, thus allowing for the observation of general placement tendencies rather than the analysis of similarities or differences between the exact placements across different rankings. It is relevant to look up and analyse not only the overall placement but also individual indicators because each ranking provider chooses to weigh indicators individually. How each indicator is weighed is, in other words, an arbitrary decision because weightings assigned to each indicator are based on the preferences of ranking

compilers (although there is a tendency to place the focus on research performance). Partly for this reason, one may observe certain discrepancies in relation to how HEIs are ranked in various rankings, thus leading to some variations and inconsistencies among the results in different rankings over the years (Kehm, 2014, p. 103; Wint and Downing, 2017, p. 237).

## Knowledge distribution within and outside the universities

Various technical infrastructures may facilitate knowledge dissemination throughout an organisation. Once knowledge is distributed, it becomes available to an increasing number of individuals in different parts of the organisations, who in turn may react quickly to various inquiries provided that they have acquired the necessary knowledge (Probst, 1998, p. 25). According to the empirical findings, analysed ranking results are disseminated within the universities mainly through emails or press releases on university websites. A number of other mechanisms are also used to circulate analysis results, which to some degree corresponds to previous research results. Specifically, HEIs tend to publish their ranking standings in the form of press releases or media campaigns on their websites or on social media. The results may also be circulated during public events, such as conferences or meetings with external partners (Hazelkorn, Loukkola and Zhang, 2014, p. 32).

In the knowledge distribution process, efficiency plays an important part because it can determine “time and quality advantages” (Probst, 1998, p. 25). In relation to time, all respondents acknowledge that quick distribution of analysis results, especially to central university management, is pertinent because universities can be contacted by media representatives to comment upon rankings results. The quality of knowledge distribution, however, is an aspect that was not discussed with the respondents. It could, however, be assumed that there are no considerable obstacles preventing efficient and qualitative knowledge distribution. The only subject matter closely related to the quality of knowledge exchange within the organisation was website reliability or the lack thereof. If the analysis of the ranking results is published directly on the university website, there is a possibility, albeit a very remote one, of losing published information unless it is saved in other formats elsewhere.

“The monitoring and information dissemination processes”, according to Wint and Downing, “are typically formed alongside quality assurance, strategic planning, institutional research and internationalization” (2017, p. 247).



Respondents predominantly report that evaluation and circulation of ranking results are linked to their intentions to distribute such knowledge to prospective international or doctoral students, in other words, referring to internationalisation. Ranking providers serve a range of audiences where students constitute only a part. Each of the groups has different expectations in respect to information provided by rankings, and thus assign a different value to such information (Goglio, 2016, p. 213). Since students are seen as one of the major user groups of ranking results, one might assume that students also place a certain value in information provided by rankings. Yet a study on student ranking perceptions reveal that students applying to universities, be they domestic or international students (from EU and non-EU countries), rely more on reputation and word of mouth than information provided by the ranking agencies (Soo, 2013, p. 177). Another study suggests that rankings are not very popular among students in Europe: only a small portion of students consults rankings. The same study suggests that rankings are more popular among the university executives and policy makers (Kehm, 2014, p. 106).

Quality assurance, on the other hand, is not connected to the work with rankings because rankings, according to the respondents, are not regarded as well-grounded and valid ways of indicating quality, whether concerning teaching or research excellence. In Scandinavian countries, the notion of excellence and quality are important aspects in the realm of higher education, yet rankings are not seen as the ultimate standard of excellence (Elken, Hovdhaugen and Stensaker, 2016, pp. 789–791).

## Knowledge preservation at the universities

When an organisation has acquired and developed knowledge, the next step is to preserve it. Various causes, such as reorganisation, may disrupt the knowledge preservation process and thus lead to knowledge loss from the organisational memory. To avoid unnecessary knowledge loss, organisations should establish procedures for determining and preserving important expertise for further use and assimilation into the organisational knowledge base. The preservation process involves various levels – individual, collective and electronic. All of these levels can be subject to unlearning or knowledge loss (Probst, 1998, pp. 26–27). One of the respondents is explicit about knowledge loss after a colleague previously working with rankings is no longer responsible for this task. Since some aspects of the work are not documented, certain expertise is no longer available within the

organisation. The current employees then have to fill the knowledge gap and acquire the necessary expertise.

According to Probst, it is important for organisations to “identify core areas of their organizational knowledge base and establish a pragmatic selection process for knowledge to be saved” (Probst, 1998, p. 27). Whether global rankings and analysis of their results constitute one of the core areas of a university’s knowledge base is a topic deserving additional attention, perhaps in a future study. Based on empirical findings, global rankings do not seem to be central in a university’s organisational knowledge. It seems the tendency is to place a relative degree of focus on this subject matter, and depending on other circumstances, it either becomes a more central subject area for the universities or remains on the periphery of the knowledge base. A study on Nordic universities and their use of global ranking results reveals that universities are “clear about the need to document results for society and show that institutions are accountable” (Elken, Hovdhaugen and Stensaker, 2016, p. 791). Accountability for society at large, perhaps, keeps global rankings at least on the periphery of the university knowledge base and from time to time causes them to become a more central area of attention.

## Knowledge use and its measurement

The use of knowledge is the very purpose of KM. Previously discussed elements of the KM model are vital aspects of the KM cycle but do not guarantee that in the end knowledge is implemented and used within an organisation. Unless knowledge is consistently used, investments made by the organisation to identify and acquire knowledge are wasted (Probst, 1998, p. 26). The extent to which knowledge learned from the analysis of ranking placements is used within the universities is uncertain. The respondents acknowledge that there is a need to monitor rankings, but it does not seem that analysis of ranking results always leads to any actions per se. Previous research indicates that international rankings are increasingly more influential on both policy as well as institutional decisions in the higher education sector. Many policymakers’ and university executives’ decisions aim to improve university placements in global rankings (Wint and Downing, 2017, p. 236). There is also evidence suggesting that rankings’ impact on European HEIs and their decision-making varies greatly among different organisations (Hazelkorn, Loukkola and Zhang, 2014, p. 37). In the matter of Swedish universities, it could be said that organisations do not make any strategic decisions to actively improve their ranking placements, nor do they rely on

ranking results to make any strategic decision-making. In Nordic countries, rankings have rather become a “convenient part of the toolbox used for navigating in the global higher education landscape, despite their faults” (Elken, Hovdhaugen and Stensaker, 2016, p. 790).

It has been claimed that those who do not monitor rankings also do not incorporate ranking results in their institutional strategies (Hazelkorn, Loukkola and Zhang, 2014, p. 37). The results of this study, however, suggest that universities do monitor rankings but choose not to incorporate or to partly incorporate the knowledge retrieved from rankings in their strategic-planning.

Knowledge measurement or evaluation of organisational knowledge is the last element in the model, and it is regarded as one of the most demanding aspects of KM because there are no definite measurements or indicators for evaluating acquired expertise and capabilities (Probst, 1998, p. 27). This KM element does not seem to be present in the empirical findings. This could be due to the nature of knowledge itself – global rankings, as noted earlier, do not seem to be a central subject matter, and therefore there is no need to fully evaluate knowledge or expertise gained from rankings and its dissemination and implementation in the respective organisations.

## Conclusions

This study set out to better understand the relevance of global university rankings in the context of Swedish HEIs. It aimed to acquire insight into how universities work with international rankings from the perspective of bibliometricians and analysts, that is, specialists working directly with rankings and having a deeper understanding of these evaluation mechanisms. To fulfil this aim, this study addressed three research questions – one general question and two sub-questions – the answers to which are presented below.

### **How do Swedish universities work with international university rankings?**

The way the higher education sector is formed and the way society views HEIs may have an impact on whether comparing and ranking universities becomes a customary approach in the higher education sector. Compared to other countries, such as the United States, the United Kingdom or China, where the interest in rankings is high, Sweden appears to be somewhat on the opposite side of the spectrum. There is a relatively small number of HEIs and students in Sweden, so universities are familiar with other institutions and their performance. The same could be said about students. Therefore, comparisons between universities are not of great significance. Rankings, however, might be of some relevance for international students applying to Swedish universities, because ranking results may provide some information about the universities and how they are comparable in Swedish, European or global contexts. Since the number of HEIs in Sweden is limited, the general understanding of different institutions and their profiles (e.g. older and more comprehensive universities, younger and smaller or research-intensive institutions) is clear in society.

The contacted universities have chosen to delegate the task of monitoring and analysing global ranking results to various units. In some instances, university libraries and their bibliometricians are responsible for this task, while in other cases departments closely related to the central university management, and hence their analysts are in charge of the assignment. As the results suggest, perception

and understanding of ranking relevancy have a direct impact on how ranking results are used and implemented within universities. There is a strong belief among the interviewees that ranking results should not steer strategic decision-making at universities. HEIs have not made any strategic decisions to improve their standings. If there are decisions to be made that contribute to the university's overall values and goals that also happen to affect rankings results, then such decisions are welcome.

### **How are university rankings perceived by bibliometricians and analysts?**

International rankings have been around for almost twenty years. During this time, everybody in the higher education sector has become familiar with rankings and has formed an opinion about them. There is no longer any enthusiasm over these evaluative systems. HEIs are aware of ranking limitations or problematic areas and do not perceive fluctuating ranking results as defining, but instead use the results for marketing purposes whenever appropriate.

The prevalent view among the interviewees is that rankings are indeed relevant for HEIs and yet they should be considered with great caution, and one should retain an understanding of ranking biases. Rankings are not seen as sufficient or, for that matter, appropriate measurement tools for quality assessment and performance evaluation. Bibliometricians and analysts also mention the importance of university management and its perception of rankings. When interest increases from top management, it also becomes more important for the respective organisations. However, the interest from university management is described as recurrent – interest emerges and then subsides, and this process repeats itself. Despite the circumstances, the prevalent approach on behalf of the university management is to stay informed about the developments concerning international rankings. There is a consensus among the interviewees that rankings are not going to disappear from the higher education sector. It seems that ranking providers are doing rather well, increasingly more HEIs are ranked, and there is a need for such evaluative systems despite their shortcomings.

### **How are information and knowledge about university rankings collected and disseminated within the respective organisations?**

Universities tend to follow more or less three rankings – ARWU, QS and THE – however, there are a number of other rankings universities monitor. The general idea is that these rankings are well-established and influential internationally. The

respondents report that on some occasions they have ceased to monitor certain rankings if the indicators or ranking results have been difficult to interpret and analyse, or if a ranking has not proved to be as impactful over time as other rankings.

The monitoring process follows a certain cycle – bibliometricians and analysts know when they need to submit necessary data to ranking proprietors and when ranking results will be published and ready to read for further analysis. Universities analyse not only their own standings but also look at how other HEIs have been ranked. Usually, the universities choose organisations to monitor either from Swedish universities or from European universities. The main principle is to follow universities of similar profile or to look at those institutions that are ranked the highest. Such comparisons are important because they can reveal any general tendencies or patterns among ranked institutions.

Analysis of ranking results is most frequently presented in a report (although other forms of dissemination are also used, for example, a newsletter or an email list), which is further disseminated within the corresponding organisations. The respondents try to make the analysis as quickly as possible in case the central university management, for example, is asked to comment upon the latest ranking standings in the media. Reports usually contain developments in various indicators and comparisons with other universities. As long as all documentation is filed at the university registry and stored in a way that makes it available for future use, all documentation and the knowledge it contains can be retrieved. Knowledge and expertise loss can occur when documentation is not in place, or when experts are no longer working in the same capacity as they had previously. Overall, rankings do not seem to constitute a central subject area in university organisational knowledge. Depending on the circumstances, rankings can become a more central subject area or remain on the periphery of the organisational knowledge base.

## Future research

The empirical contribution of this thesis is the analysis of opinions expressed by experts working with rankings at different Swedish universities. It was a deliberate choice to select this cohort, in this way avoiding a top-down view on the subject matter as it can occur when selecting a cohort from university leadership. This study shows that the internal knowledge dissemination process involves a number of different units. Thus, to develop a deeper understanding of

KM practices regarding global rankings in any given university, future research could focus on other parties involved, such as bibliometricians and analysts in combination with representatives from university leadership, members of the faculty or the communications department.

This work examines predominantly larger universities, and according to previous literature, older and more comprehensive and research-intensive universities might have advantages in the rankings compared to younger and smaller organisations (Marginson and van der Wende, 2007, p. 308; Wint and Downing, 2017, p. 237). Thus, examining how smaller HEIs work with global rankings could provide new insights given that such institutions have fewer resources, while also having a greater interest in being ranked or improving their standings. In a similar vein, research could be done on HEIs that are not ranked or are ranked only in a certain sub-ranking or subject ranking. There is also an indication that lower-ranked HEIs attempt to mimic the best-ranked universities to improve their standings. Such imitation has led to an increasing trend toward isomorphism and to a certain homogeneity rather than diversity among HEIs (Kehm, 2014, p. 108). Another direction for future research could be to examine whether smaller HEIs indeed look up to top-ranked universities and attempt to mimic them.

In this study, I employ a qualitative data collection method, namely, semi-structured interviews. For a more nuanced analysis, a mixed-methods approach could be used in future studies. Semi-structured interviews, for instance, could be combined with content analysis of strategic documents and reports written to internally disseminate information from global rankings. By examining policies or other strategic documents, it would be possible to examine to what extent, if at all, rankings are incorporated into such documents.

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## Appendix I. Interview guide

1. What are your main work tasks? How long have you worked with rankings? How much do you work with rankings?
2. What is your opinion about global university rankings? Are those, in your opinion, relevant for your university?
3. Are there any guidelines or existing practices as to how your university gathers data from rankings?
4. What rankings do you tend to analyse? Why these ones?
5. How do you document and analyse ranking results (e.g. by writing a report)?
6. Do you analyse and evaluate ranking results over time? If yes, how often do you make such evaluations and what do you pay attention to? If not, why not?
7. Do you observe how other Swedish universities are ranked? If yes, why is it relevant to observe other university performances in global rankings? If no, why not?
8. Has your university changed its interest in global rankings over time (e.g. an increased or decreased interest in rankings over the years)? Why has it changed?
9. Do you disseminate information about global rankings within your university? And if so, how? Whom do you inform about the global ranking results (e.g. university management, faculty members)?
10. Are there any external parties you inform about your university's standings (e.g. external funding organisations)?
11. Does your university take into consideration ranking results when making strategic decisions? If yes, could you name a few recent examples? If no, why not?
12. Do you check citation databases like Scopus or WoS for bibliometric data accuracy (e.g. institutional name variations, affiliations, author naming variations)?
13. Is there anything else you would like to mention?

## Appendix II. Consent form

Inga Dubina

Master's Programme in ALM

Lund University

[year-month-day]

### Consent for the collection and processing of personal data

As part of the course Library and Information Science: Master's Thesis (course code ABMM54) at Lund University, I am conducting a study that aims to get an insight into how Swedish universities work with global university rankings. For this, I will conduct semi-structured interviews with persons working within this area, such as bibliometricians. Each interview will take approximately 40-50 minutes.

During the interview, I would like you to provide information about your perception and work with international university rankings. With your consent, the interview will be audio-recorded and transcribed. The audio recording will be used only by me, and can be made available to my supervisor and teaching staff of the current course. The recording and transcripts will be stored in a safe place and erased when the study is completed and graded by an examiner. In the thesis, your name will be anonymised.

Your participation in this study is voluntary and you may withdraw your consent at any time. Would you have any questions about this study, please do not hesitate to contact me, my supervisor or course responsible.

Inga Dubina / [email address] / [phone number]

Supervisor: Kristina Eriksson-Backa / [email address] / [phone number]

Course responsible: Björn Magnusson Staaf / [email address]

I hereby consent that my personal data can be collected and processed as described above.

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Signature

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Name in block letters

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Place and date