ABSTRACT

In entrepreneurship and small business research, the notion of a “small firm” or a “small and medium-sized enterprise” - as opposed to a large corporation - is often a central and important concept.

The results of a study of small firms may be very different however, depending on whether the small firms in question are “multi-million dollar companies” with 500 employees or really small firms with just 20 employees.

Using data from 124 articles from five international journals, this paper investigates how current entrepreneurship and small business research understands and defines the concepts of a small firm or small and medium-sized enterprise.

This study shows that in many articles it is difficult to see whether the researcher has considered what a small firm actually is, whether the particular definition is appropriate, or what the consequences for the conclusion might be, if other definitions were used.

INTRODUCTION

What is a small and medium-sized enterprise (SME)? This may sound like a simple and easy question for researchers, policy makers, and practitioners, since we all know and use the term. But do we really know what the term covers?

SMEs (1) play an important role in many respects. According to OECD, SMEs account for over 95% of all firms, 60% - 70% of the total employment, and generate a large share of new jobs in the OECD economies (OECD, 2005). In the EU countries, SMEs account for approx. 75 million jobs (in 2005), and as much as 99% of all enterprises are micro, small or medium-sized (European Commission, 2005). Thus, small and medium-sized enterprises (SMEs) play a very important role in the economy and employment. Needless to say, the figures of the economic importance of SMEs very much depend on exactly how SMEs are defined! (2)
In entrepreneurship and small business research, the notion of a “small firm” or a “small and medium-sized enterprise” – as opposed to a large corporation – is a central and important concept. The SME is in fact often the unit of analysis, and it is thus essential to have a clear understanding and definition of SMEs when dealing with this field of research.

Entrepreneurship and small business research should – ideally – function as the creator of new knowledge, to be applied in practice, education, and policy making. Thus, researchers (should) play an important role in the sense of defining what is, or should be, included and understood as an “SME”.

But are researchers conscious of how SMEs are defined? Do we – as researchers – know what we are talking about when we deal with SMEs? Are researchers fully aware of their choice of definition for this very central concept for the small business and entrepreneurship research areas?

These are the questions that will be answered in this paper.

To answer these questions, we will first look into which “official” SME definitions exist, and explain the background and reasoning behind them. Then, in the subsequent chapter, we will clarify the data collection and methodological considerations of the study of investigating how SMEs are defined in current research. The results of the study will then be presented and, finally, we will discuss some of the implications and conclusions of the findings.

**DEFINITION OF SMALL FIRMS AND SMES**

A number of definitions of small firms and small and medium-sized firms (3) exist, coming from various governmental and “official” sources. These sources include SME agencies, governmental institutions and ministries, the EU Commission, and national statistical institutions/bureaus. Each country and region in the world seem to have their own definition of SMEs.

The definitions of SMEs are (among other things) used to assess and limit the firms that should be included in various small business policy support programmes, offered by national governments or regions, such as the EU in Europe and the Small Business Administration (SBA) in the US.

Despite their large distribution and importance, SMEs may – according to OECD, the EU and SBA – face a number of challenges: Lack of financing, difficulties in exploiting technology and constrained managerial capabilities. These are some of the political concerns and reasons for the various (development) programmes for SMEs that are available in many countries and regions throughout the world.

The official/governmental programmes include a variety of initiatives, such as promoting micro enterprises, improving access to capital, promoting innovation, and improving access to research and development among SMEs (the EU Commission, 2005). According to the EU Commission, it is important to implement and coordinate regional development and research funding with special focus on SMEs. Furthermore, it is essential that these measures in favour of SMEs are based on a common definition to improve their consistency and effectiveness, and to limit distortions of competition (the EU Commission, 2005).

According to the EU Commission, the EU definitions were discussed with member states and stakeholders during two consultation rounds in 2002 and in the first months of 2003, and should reflect a broad consensus among them. The current thresholds, in particular the number of employees, were already the most prevalent among the definitions used by the member states before the first EU SME definition was adopted in 1996. The financial thresholds were updated in 2003, and should take into account the developments in prices and productivity since 1996 (the EU Commission, 2008).

In many nations and/or regions, the local national/regional governmental institutions include SME programmes, similar to the EU programmes, including certain definitions of SMEs.

In this paper we will highlight four of these official definitions. The definitions are presented in table 1, and come from the Small Business Administration (SBA) in the US, the Commission of the European Union, the Australian Bureau of Statistics and, finally, from Statistics Denmark (4).
EU, Australian and Danish definitions are the same for all industries, whereas the SBA definition in the US defines small firms depending on which type of industry they belong to (5). The definitions all define the size of the firm by one or a combination of the following criteria:

- Number of full-time employees. Usually calculated as a yearly average, including part-time employees (two “half-time” employees equal one full-time employee).
- Amount of yearly sales.
- Amount of total assets in the firm.
- A requirement of ownership/management independence of larger corporations.

Table 1 – Official definitions of small firms/SMEs

<table>
<thead>
<tr>
<th>The European Commission</th>
<th>The Small Business Administration, US</th>
<th>The Australian Bureau of Statistics</th>
<th>Statistics Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of SMEs:</td>
<td>Definition of small firms:</td>
<td>Definition of SMEs:</td>
<td>Definition of SMEs:</td>
</tr>
<tr>
<td>- Micro firms: up to 10</td>
<td>- Manufacturing firms: max.</td>
<td>- Micro firms: less than</td>
<td>- Micro firms: up to</td>
</tr>
<tr>
<td>full-time employees and</td>
<td>500 employees.</td>
<td>5 employees.</td>
<td>9 full-time employees.</td>
</tr>
<tr>
<td>an annual turnover or</td>
<td>- Wholesale trade firms: max. 100</td>
<td>- Small firms: between 5-19</td>
<td>- Small firms: 10-49</td>
</tr>
<tr>
<td>balance sheet of max. €2</td>
<td>employees.</td>
<td>employers.</td>
<td>full-time employees.</td>
</tr>
<tr>
<td>million.</td>
<td>- Agriculture: max. $750,000 in average</td>
<td>- Medium-sized firms: between 20-200</td>
<td>- Medium-sized</td>
</tr>
<tr>
<td>- Small firms: up to 50</td>
<td>annual receipts.</td>
<td>employees.</td>
<td>firms: 50-100 full-</td>
</tr>
<tr>
<td>full-time employees and</td>
<td></td>
<td></td>
<td>time employees.</td>
</tr>
<tr>
<td>an annual turnover or</td>
<td>- Retail trade and most</td>
<td></td>
<td></td>
</tr>
<tr>
<td>balance sheet of max.</td>
<td>service firms: max. $6.5 million in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>€10 million.</td>
<td>average annual receipts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Medium-sized firms:</td>
<td>- General and heavy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>up to 250 full-time</td>
<td>construction (except dredging):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>employees and an annual</td>
<td>average annual receipts of max. $31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>turnover of max. €50</td>
<td>million.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>million or a balance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sheet of max. €43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>million.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Some researchers have criticized these official definitions. Using rather simple quantitative criteria, such as number of employees and/or annual sales as a measure of “smallness”, may not be adequate measurements or dividers of the (supposed) underlying “true” difference between large and small firms.

Brytting (1991) explains that a key feature with a small firm, as opposed to a large firm, is small-scale decentralization and a flat organizational hierarchy, in other words a qualitative definition of a small firm.

Curran et al. (1991) argue that the use of a single size (quantitative) criterion leads to a very heterogeneous collection of businesses, all being labelled as “small”. Curran et al. argue that smallness should rather be seen as a multi-dimensional (qualitative) concept, where the organizational structure, management, and legal independence define the firm.

In a similar line of thinking, Van Hoorn (1979) (as referred to in Brooksbank, 1991) proposes five characteristics that differentiate smaller firms from larger firms: (1) A comparatively limited number of products, technologies and know-how. (2) Comparatively limited resources and capabilities. (3) Less developed management system, administrative procedures and techniques. (4) Unsystematic and informal management style. (5) Senior management positions held by either the founders of the firm and/or their relatives.
Storey (1994) attempts to identify the characteristics of a small firm, other than size per se, that distinguish it from larger enterprises. Storey argues that there are three central respects in which small firms are different to large firms: Uncertainty, innovation, and evolution.

Uncertainty is the first key area that distinguishes large and small firms. Uncertainty is defined in terms of three dimensions:

1. The small firms are price takers – they have a small share of the market, and are not able to influence the price level.
2. Small firms have a limited customer and product base. They act as subcontractors to larger firms, and are vulnerable compared to the – often more dominant – larger firm.
3. There is a much greater diversity of objectives of the owners of small firms, compared with large ones. Many small business owners seek only to obtain a minimum level of income, rather than maximize the profits. Small business owners do not have to concern themselves with reporting their actions to external shareholders, and so “performance monitoring” effectively does not exist. In the small firm, ownership and control are in the hands of only few people, or perhaps a single owner/manager. The principal/agent problems do not exist to the same degree as in the larger enterprise.

The second key area, according to Storey, of difference between small and large firms is their role in innovation. Small firms often play a “niche role”; they provide something marginally different in terms of product or service, which distinguishes them from the more standardized product or service from large firms. The small firm is much less likely to undertake research and development than larger firms, and is less likely to have a high proportion of its staff concerned exclusively with research. Even so, small firms are more likely to introduce fundamentally new innovations than larger firms. Small firms have less commitment to existing practices and products.

The third area of difference between large and small firms is the much greater likelihood of evolution and change in the smaller firm. (Re. Penrose’s (1959) picture of the small firm developing from a caterpillar to a butterfly).

Small firms undergo a number of stage changes which influence the role and style of management and the structure of the organization. The structure and organization of the small firm are more likely to be in a state of change as the firm moves from one stage to another, than is the case for larger firms.

Wyrnarczyk et al. 1993 (as referred to in Storey, 1994) argue that the three dimensions – uncertainty, innovation, and evolution – where the small firms differ from the large firms, should be explored as a “bottom up” way of theorizing about small firms, rather than implicitly assuming that a small firm is a “down-scaled” version of a large firm.

Thus: “The central distinction between large and small firms, then, is the greater external uncertainty of the environment in which the small firm operates, together with the greater internal consistency of its motivations and actions”. (Storey 1994).

Smallness should be seen as a relative smallness vis a vis its market. Rigid quantitative definitions of “small” and “large” firms should be seen in relation to the market that they operate in – and relative to the other incumbents in the market. Thus, firms that we would normally consider as “large” may be small in relation to their market and their competitors, and firms that we would normally label “micro firms” may be dominating in relation to their (specialized) market and competitors. Thus, general quantitative (“rigid”) definitions may not be practical in all circumstances.

To sum up the discussion: Various official definitions of SMEs exist. The official definitions are all mainly quantitative in nature, and they vary a lot between countries and regions: In Denmark SMEs are defined as firms of up to 100 employees, in the US up to 500 employees. However, these definitions are criticised by the research community, saying that rigid quantitative measures may not reflect the “true” underlying differences and that, accordingly, qualitative definitions should be taken into consideration.
So the question is: To which extent are these considerations taken into account in current academic research? What kinds of definitions are used? And how do researchers argue for their choices of definition?

This will be investigated in the following chapters.

**DATA COLLECTION**

To investigate how current entrepreneurship research understands and defines small firms (and how these definitions are explained or argued for), this study systematically went through a number of research articles published in international academic journals.

In principle, it could be relevant to investigate all journals and articles that deal with entrepreneurship and small business research. The analysis was limited to five top journals that explicitly focus on entrepreneurship and small business research. Top journals were chosen because they (should) represent top-quality research, and because highly ranked journals often serve as reference for a large number of researchers. Thus, the way SMEs are defined in top journals may “trickle down” and have an impact on a broad share of researchers and journals.

The journals for the study were chosen from journal rankings. However, the various ranking lists do not agree as to what constitutes e.g. an “A”, “B”, or “C” journal. In different ranking lists, various parameters are used, and the weight of the parameters varies. This naturally means that different journals are ranked quite differently in the various ranking systems.

The *meta* ranking by Prof. Harzing, calculating a weighted average of 15 international rankings systems (www.harzing.com), was used for the selection of journals.

The journals that were selected for the study are: Journal of Business Venturing, Journal of Small Business Management, Small Business Economics, Entrepreneurship: Theory and Practice, and Entrepreneurship and Regional Development.

The study included all articles published within the last available year (6) in these five journals. In total, 124 articles were scrutinized by reading each article manually, and in addition, each article was electronically searched for small business and SME definitions by using a number of search words (see table 2), to be sure that definitions of small firms or SMEs were not overlooked in the reading process.

**Table 2 – Search words to find definitions in academic articles**

<table>
<thead>
<tr>
<th>Search word</th>
<th>Reason/explanation for search word</th>
</tr>
</thead>
<tbody>
<tr>
<td>small</td>
<td>The word “small” was very often present in the sentence or paragraph where the definition was found in the articles.</td>
</tr>
<tr>
<td>SME</td>
<td>The word “SME” was very often present in the sentence or paragraph where the definition was found in the articles.</td>
</tr>
<tr>
<td>size</td>
<td>The word “size” was very often present in the sentence or paragraph where the definition was found in the articles.</td>
</tr>
<tr>
<td>defin</td>
<td>Searching for “defin” revealed all forms such as “definition”, “definitions”, and “defining”, and thus could lead to the sentence where small firms or SMEs are defined.</td>
</tr>
<tr>
<td>employ</td>
<td>Number of employees is often part of the definition of small firms, and thus a search for “employ” revealed all forms including “employee”, “employees”, and “employment”.</td>
</tr>
<tr>
<td>workers</td>
<td>Number of workers is sometimes part of the definition of small firms, and thus a search for “workers” could reveal definitions of small firms and SMEs.</td>
</tr>
</tbody>
</table>

The 124 articles were then categorized in terms two dimensions:

- Defining small firms or SMEs *explicitly* or *implicitly*: The articles would either contain an explicit definition of the concepts, an implicit definition of the concepts, or contain no definition of small firms or SMEs at all.
From these two dimensions, six categories of articles in terms of definition of small firms or SMEs are available. The categories and the other results of the data collection are presented in the next chapter.

RESULTS

Table 3 describes the six categories of articles and the total number of articles in each category. The results of the study will be further explained and illustrated below.

Table 3 – Categories of articles

<table>
<thead>
<tr>
<th>Explicit definition of SME</th>
<th>Category 1</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small firms or SMEs are mentioned in the article</td>
<td>These articles deal with, discuss, or analyse small firms or SMEs one way or the other. In other words, small firms or SMEs are a research topic in the article and are mentioned as such. It is also explicitly mentioned how the concepts of small firms or SMEs are defined in the article. In total, 28 category 1 articles were found in the survey.</td>
<td>In category 4, small firms or SMEs are not mentioned in the articles. In other words, even though the article is published in a small business or entrepreneurship journal, small firms or smallness are not dealt with or mentioned directly. This may e.g. be articles about entrepreneurship and/or business venturing, or articles that deals with issues that relate to family businesses. Category 4 includes an explicit definition of small firms and SMEs. No articles from the analysis/research were found in cat. 4.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implicit definition of SME</th>
<th>Category 2</th>
<th>Category 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small firms or SMEs are mentioned in the article</td>
<td>These articles deal with, discuss, or analyse small firms or SMEs one way or the other. In other words, small firms or SMEs are a research topic in the article and are mentioned as such. However there is no direct/explicit definition of small firms or SMEs. Some form of indirect definition exists though. For example, one study deals with growth intentions in small firms, no definition of small firms is given, but it is mentioned that the number of employees in the sample of firms varies between 3-33, thus (indirectly) indicating that this range is considered to be within the “small firm” category. In total, 22 category 2 articles were found.</td>
<td>In category 5, small firms or SMEs are not mentioned in the articles. In other words, even though the article is published in a small business or entrepreneurship journal, small firms or smallness are not dealt with or mentioned directly. Category 5 includes an implicit definition of small firms or SMEs. No articles from the analysis/research were found in category 5.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No definition of SME</th>
<th>Category 3</th>
<th>Category 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small firms or SMEs are mentioned in the article</td>
<td>These articles deal with, discuss, or analyse small firms or SMEs one way or the other. In other words, small firms or SMEs are a research topic in the article and are mentioned as such, but there is no direct or indirect explanation of how a small firm or SME is defined or should be understood in the articles. In total, 37 category 3 articles were found.</td>
<td>In category 6, small firms or SMEs are not mentioned in the articles. In other words, even though the article is published in a small business or entrepreneurship journal, small firms or smallness are only dealt with or mentioned in-directly (same as category 4 and 5). In cat. 6, no definition is given of small firms or SMEs. In total, 37 articles were found in this category.</td>
</tr>
</tbody>
</table>
Figure 1 illustrates how SMEs are defined in current research. The whole square represents the 124 articles, and the square is then divided in sub-squares according to whether the articles specifically focus on SMEs or not, whether the articles that do focus on SMEs include a definition or not, whether this definition is mentioned explicitly, or whether the definition can (only) be interpreted implicitly. Then the figure is further sub-divided in what kind of definition the articles apply for SMEs.

**Figure 1 – Definitions of small firms and SMEs**

![Diagram showing definitions of small firms and SMEs](image)

Source: Own contribution

As mentioned above, a total of 124 articles were investigated in the study. Of the 124 articles, 87 articles explicitly dealt with, discussed, or analysed small firms or SMEs.

Of the 87 articles, 50 included a direct or indirect description of how small and/or medium-sized firms are defined. This also means that 37 articles that deal explicitly with small firms and SMEs did not include any definition of these concepts.

Of the 50 articles that included a definition, 28 articles included an *explicit* definition (category 1), and 22 articles included an *implicit* definition (category 2).

The most common way of defining small firms or SMEs is by the *number of employees*. In fact, 80% of all articles have number of employees as the (only) indicator of smallness. However, the intervals/size limits vary considerably. For example, small firms are defined as firms with less than 200 employees, with 10-200 employees, with 51-100 employees, with less than 50 employees, and with less than 20 employees.

The most common definition in the articles is the US-based definition. 24% of all articles used the US definition. The “original” definition from the Small Business Administration (SBA) in the US, which is similar in Canada, uses a combination of employees and maximum amount of annual sales with variations for different industry sectors (see chapter 3 for a precise definition from the SBA). The articles in this study all used a “simplified version” of the SBA definition: Small firms and SMEs are simply defined as firms with less than 500 employees.
26 out of 28 of the articles in category 1 and 15 out of 22 articles in category 2 define size by the number of employees. Two articles define size by the shareholder value. The remaining articles (7 out of 50) in the study used annual sales, shareholder value, or total assets as a measurement of size and smallness. The definitions in 98% (49 out of 50 articles) of the academic articles in the study are quantitative in nature. Only one qualitative definition of small firms or SMEs is used in the research papers that were investigated in this study.

Reasoning for the definitions

The next step is to investigate the explanations and arguments for why the specific definition of SMEs is used. The result of this is presented in figure 2 and tables 5 and 6 below.

Figure 2 – Explanations and arguments for definitions

In total: 50 papers with definitions of SMEs (= 100%)

- 28 papers with no explanations of definitions
- 22 papers with explanations of definitions
  - 26 papers with explanations referring to “official” definitions
    - 4 papers; explanations referring to “tradition” or other studies
    - 1 paper with qualitative explanation
  - 19 papers with explicit definitions
  - 3 papers with implicit definitions
- Papers referring to academic literature or other studies

Source: Own contribution

Of the 124 articles in the study in total, 37 articles in category 4-6 did not include any definitions of small firms/SMEs, and none of these articles included any explanations or argumentation either (not very surprising, since they did not include any definitions).

Of the 50 articles that did contain a direct or indirect definition of small and/or medium-sized firms, 22 articles had some sort of explanation or argumentation of how or why the specific definition was chosen, whereas 28 articles did not include any explanations or arguments for the choice of definition.

Two thirds of the explanations and arguments in the articles refer to the “official” definitions made by e.g. the SBA in the US or the Australian Bureau of Statistics (see above). Slightly less than a third of the articles refer to the definitions that are used in other academic studies to argue for their own choice of definition. Other articles refer to the “tradition” of the particular country for making the definition in a certain way. One article argued for its definition through qualitative SME research. Figures 4-7 below specify the various explanations and arguments.

Specification of SME definitions

Tables 4 and 5 specify the different definitions that are applied in the various articles in category 1 and 2, and the number of times that they are applied. In some of the articles, the definitions that are used are identical, although the exact wording might differ slightly. In these cases, the specific definition is only mentioned once.
Table 4 – Specification of applied definitions, category 1 articles

<table>
<thead>
<tr>
<th>Definitions of small firms or SMEs</th>
<th>No. of articles that use this definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of employees: Less than 500 employees.</td>
<td>10</td>
</tr>
<tr>
<td>No. of employees: Less than $50 mill in annual sales and fewer than 500 empl.</td>
<td>1</td>
</tr>
<tr>
<td>No. of employees: Less than 300 employees.</td>
<td>1</td>
</tr>
<tr>
<td>No. of employees: Less than 250 employees (medium-sized).</td>
<td>7</td>
</tr>
<tr>
<td>No. of employees: Less than 200 employees.</td>
<td>6</td>
</tr>
<tr>
<td>No. of employees: Between 51-100 employees (small firms).</td>
<td>1</td>
</tr>
<tr>
<td>No. of employees: 5 firm size classes: Less than 2 employees, between 2-5, between 6-10, between 11-25, and above 25 employees.</td>
<td>1</td>
</tr>
<tr>
<td>Ownership and life situation: Micro firms = Owned/managed by the entrepreneur and sustainable livelihood system.</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total number of articles with a definition</strong></td>
<td><strong>28</strong></td>
</tr>
</tbody>
</table>

Table 5 – Specification of applied definitions, category 2 articles

<table>
<thead>
<tr>
<th>Definitions of small firms or SMEs</th>
<th>No. of articles that use this definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of employees: Less than 500 employees (small firm) (the US definition).</td>
<td>2</td>
</tr>
<tr>
<td>No. of employees: Less than 200 employees (small firm).</td>
<td>1</td>
</tr>
<tr>
<td>No of employees: 5 scales: Less than 10, 10-49, 50-99, 100-199, and +200 empl.</td>
<td>1</td>
</tr>
<tr>
<td>No of employees: 5-25, 25-150, +150 employees.</td>
<td>1</td>
</tr>
<tr>
<td>No of employees: Between 20-130 employees.</td>
<td>1</td>
</tr>
<tr>
<td>No. of employees: 50-99, +100 employees.</td>
<td>1</td>
</tr>
<tr>
<td>No of employees: 1-100 employees (small firms).</td>
<td>1</td>
</tr>
<tr>
<td>No of employees: 0-9 full-time equivalents (small), 10-99 full-time equivalents (medium-sized). Large +100 in workforce.</td>
<td>1</td>
</tr>
<tr>
<td>No. of employees: The firms had between 3-33 employees in the studied sample.</td>
<td>1</td>
</tr>
<tr>
<td>No. of employees: No clarification of limitations or intervals, etc.</td>
<td>4</td>
</tr>
<tr>
<td>Defined by the LOG of the firms' employees.</td>
<td>1</td>
</tr>
<tr>
<td>Defined by total assets.</td>
<td>3</td>
</tr>
<tr>
<td>Defined by sales, no explanation of what is small, SME or large.</td>
<td>2</td>
</tr>
<tr>
<td>Defined as the log of the IPO (= the shareholder value).</td>
<td>1</td>
</tr>
<tr>
<td>Size of the venture is operationalised as the market capitalization at the time of the IPO. Market capitalisation calculated as number of shares outstanding after the issue times the offer price per share.</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total number of articles with a definition</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>

Specification of explanations and arguments for the definitions

Tables 6 and 7 specify the various explanations and arguments that are used for applying the definitions.

Table 6 – Specification of explanations for choice of definition, category 1 articles

<table>
<thead>
<tr>
<th>Explanations/arguments for choice of definition</th>
<th>No. of articles that use this explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arguments that refer to the SBA definition in the US (and Canada):</td>
<td></td>
</tr>
<tr>
<td>• “Small firms defined in accordance with SBA in the US”</td>
<td>6</td>
</tr>
<tr>
<td>• &quot;We measured firm size using both the number of employees and the firm's total assets. The former is used by Industry Canada to classify SMEs officially, while the latter is the one usually adopted in the finance literature&quot;</td>
<td></td>
</tr>
<tr>
<td>• &quot;...the research drew on data collected by Statistics Canada (in conjunction with</td>
<td></td>
</tr>
</tbody>
</table>

991
Industry Canada and Finance Canada). Specifically, the 2002 Survey of Financing of Small- and Medium-sized Enterprises”.

Arguments that refer to the EU definition:
- We use the definition of the European Commission (1996) of SMEs.

Arguments that refer to the Australian definition:
- "...the sample is consistent with common quantitative definitions used for small business in Australia”.
- Such a classification is consistent with the Australian Bureau of Statistics’ definition of small, medium and large organisations (ABS, 1997–1998)."
- The Australian Bureau of Statistics (2001, p. 1) defines a small business as one that is independently owned, operated, and managed, and employs less than 20 employees. A medium-sized business is one that employs between 20 and 200 people.

“Small and medium-sized business” as stipulated by the Mexican federal government (that is, Diario Oficial de la Federacion 1999), that is, a firm with less than 500 employees”.

It should be emphasized that the EU CIS boundaries of firm size classes differ significantly from other classifications. In Acs and Audrestch (1988), small firms are those with less than 500 employees; van Dijk et al. (1997) define small firms as those from 10 to 100 full-time equivalent employees.

..This range of employment was selected because they are the focus of the Ghanaian Government policy and are also the businesses served by the support organisations such as Empretec Ghana Foundation.

The traditional cut-off point is +300 employees in Taiwan between large and small firms.

"The empirical analysis uses the SIEPI-CIS2 database developed at the University of Urbino, based on CIS 2 data at the industry level for 22 manufacturing sectors.”

The reason for this seems to be convenience (the data set came from a DVD). The data used to construct the sample for the present study were gathered from the Belfirst DVD of Bureau Van Dijk. "The average size of the firms in the present sample, measured by total assets, is 759,400 EUR, but again the median is much smaller at 385,000 EUR. The firms in our sample are somewhat smaller than those in the sample of Scherr and Hulburt (2001)."

A very long and thorough qualitative argumentation.

Table 7 – Specification of explanations for choice of definition, category 2 articles

<table>
<thead>
<tr>
<th>Explanations/arguments for choice of definition</th>
<th>No. of articles that use this explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;In de Kok et al. (2006), small firms are defined as firms with a workforce of 0-9 full-time equivalents. Medium-sized firms have a workforce of 10-99 and large firms have a workforce of 100 and more full-time equivalents”).</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Consistent with the IPO literature, we measure firm size as the log of the IPO proceeds”.</td>
<td>1</td>
</tr>
<tr>
<td>&quot;The average size of the firms surveyed was relatively small, about 260 employees and can thus be classified as small-to-medium-sized enterprises.”</td>
<td>1</td>
</tr>
<tr>
<td>Total number of articles with some kind of explanation/argument for definitions</td>
<td>3</td>
</tr>
</tbody>
</table>

DISCUSSION

43% of the articles that deal explicitly with small firms/SMEs did not define what a small firm or SME is. Obviously, this means that in 43% of the articles it is not possible to see what is actually meant by a small firm/SME, it is impossible to tell whether the researcher(s) have considered this issue, or
whether he/she paid any attention to the great differences that exist in SME definitions. It becomes difficult to interpret and evaluate the results and compare the results with other studies that deal with similar subjects but with a (potentially) very different definition of smallness!

All of the definitions from the articles, except one, are quantitative in nature – only one qualitative definition is used. Most of the definitions use “number of employees” as a measurement for firm size.

Why is this? What does it imply? Well, first of all the critique of the quantitative definitions and the more “sophisticated” qualitative definitions do not seem to be taken into account. The definitions that are used in the articles are the (most) simple ones.

Secondly, it could be questioned whether number of employees is always a good measure of size, and thus for defining smallness? For example, if the sales in a firm is increasing, the number of employees may not grow accordingly (Davidsson and Wiklund, 2000). With increasing sales, production processes may be made more effective, or the production may be outsourced resulting in a potential decrease in employment – but the firm may still be considered to be growing in terms of sales.

More than half (56%) of the articles with a definition of small firms/SMEs did not include any explanations or arguments for these definitions. This means that we do not know why the definitions were chosen – whether the researcher actually considered using the best suitable definition, or whether he/she used the definition for pragmatic/convenience reasons.

Thus, less than half (44%) of the articles with a definition of small firms actually did include some sort of explanation or argument though, indicating a conscious and deliberate choice. But most of these arguments simply referred to an official definition, again without explaining or (explicitly at least) considering why this definition makes sense for the study in question. Again, please remember that there is a huge difference in small business definitions, ranging from a small firm definition of “below 500 employees” to a small firm definition of “10-49 employees”.

The quantitative definitions that use the number of employees seem to be taken for granted and applied for pragmatic/convenience reasons, rather than a deliberate choice as the most appropriate definition.

The results of a study of small firms may be very different depending on whether the small firms are “multi-million dollar companies” with 500 employees or really small firms with just 20 employees.

The official quantitative definitions that use the number of employees, annual sales, total assets, or shareholder value as measures of firm size are developed and used by policy makers for governmental and regional Small Business Support Programmes. The qualitative definitions, on the other hand, are made from a consideration of the effects of the size on organisations (Brooksbank, 1991).

An interesting question in terms of comparing and potentially aligning the quantitative and qualitative definitions is whether the qualitative differences between “small” and “large” manifest themselves at a certain quantitatively measurable firm size? In other words, do the qualitative differences between smaller and larger firms manifest themselves at a certain number of employees, annual sales, or amount of total assets?

Answering this question is outside the boundaries of this article but could provide an interesting insight into the discussion of quantitative vs. qualitative definitions, and might provide both policy makers and researchers with more well-founded definitions.

The most suitable SME definition?

In my view, there is no “one best definition” or “one-size-fits-all” solution for defining SMEs. Rather, an SME definition should be the result of a deliberate and well-grounded choice, taking the methodology, purpose and/or content of the study into account.

A discussion about different kinds of studies and their connection to SME definitions will be described below. It is not the intention of this paper to make a complete and exhaustive list, but merely to provide some suggestions that may serve as inspiration for future SME and entrepreneurship research.
In terms of methodology, studies can be divided in mainly quantitative or mainly qualitative studies, although hybrids do exist.

If the study has a mainly qualitative approach, the SME definition should, all things considered, be qualitative as well, taking the above research critique of the quantitative definitions into account.

If, on the other hand, the study is a “classical” quantitative study with a large data set, a quantitative definition may be the most feasible solution. The definition should still be chosen carefully, though. The widely used definition from the SBA in the US may not be the most appropriate one in all cases. If the topic for instance is managerial problems/issues in small firms, one should consider whether the qualitative considerations of smallness (flat organisational hierarchy, informal management style, less developed management system, owner/managed, limited resources and small scale) really apply in general for firms of up to 500 employees?

In addition to the methodological considerations, the purpose and content of the study may also influence the choice of SME definition. Based on the investigation of articles from this study, SME studies can be divided into four main categories according to their overall purpose: Societal purposes, policy purposes, management purposes, and theoretical/technical studies.

If the study have a societal objective and purpose, such as regional or national employment and job creation, an SME definition based on the number of employees may be most suitable. This depends, however, on what the dependent and independent variables of the study may be.

If the study has a policy objective, where the purpose may be to investigate SME and entrepreneurship policies in a specific regional area, the most suitable definition may be the official quantitative definition of that region. If, on the other hand, the study aims to uncover some of the underlying mechanisms of the effect of SME policies, a qualitative definition may be needed to get a more in-depth and “true” picture of the issues.

Studying management-related issues of SMEs or entrepreneurship may suggest a qualitative definition of smallness, taking seriously the critique from the research community of the quantitative definitions. However, if the purpose of the management study is to test various hypotheses empirically, using large data sets, a well-grounded quantitative definition may be appropriate.

The purpose of a study - such as this one! - may be to develop a more thorough theoretical or technical understanding of various issues. In these cases, the choice of a proper SME definition will rest entirely on the specific methodology and purpose in question.

CONCLUSION

The aim of this paper was to find out how SMEs are defined in current research. We also wanted to find out why researchers choose the particular definitions and, in this respect, whether the researchers argue for and explain their choice of definition for this very central concept for our research areas?

The study provided a clear picture of how current entrepreneurship and small business research defines small firms/SMEs.

The definitions of small firms/SMEs can be categorized in mainly quantitative and mainly qualitative definitions.

The main results are summarised as follows:

- More than 40% of the articles that deal with small firms/SMEs did not include any definition of SMEs at all. Thus, in these articles, it is not possible to see how the author perceives or defines small firms/SMEs or what kind of criteria are used in the article.

- For the papers that did include a definition (57% of all papers), except for one paper, all definitions in the study were simple quantitative definitions, using just one criterion for smallness (either the number of employees or annual sales or total assets).
• The most common criteria for measuring size in the applied definitions are “number of employees” and “annual sales”.

• One paper in the study included a qualitative definition.

• Of all the papers that included a definition, more than half did not include any explanation or argumentation why the particular definition was applied.

• For the papers that did include some kind of explanation or argumentation for the definition, all explanations and arguments referred to one of the official, governmental definitions or simply to “tradition”. Except for one paper, none of the papers included any discussion of whether the definition was appropriate for the paper.

Except for one paper, none of the definitions and explanations seem to be grounded in research or theoretical appropriateness of the definitions. In many papers, it is difficult to see whether the researcher has considered what a small firm actually is, whether the particular definition is appropriate, or what the consequences for the conclusion might be, if other definitions were used.

The study shows that researchers do not take the qualitative measures into consideration in current entrepreneurship and small business research! They almost all apply simple quantitative definitions.

A large part of the investigated papers did not specify any definitions at all.

It is clear from the study that there is little consensus among researchers about what defines a small and/or medium-sized firm – there are major differences in the applied definitions. Despite this, many articles deal with the terms as if it were a clear and unambiguous concept. It is anything but!

It seems that there is a need for more focus and a larger degree of awareness among researchers in terms of defining one of the key concepts in our research area.

NOTES

(1) Some definitions (e.g. the definition from the European Commission in the EU) include a division of smaller firms into “micro”, “small” and “medium-sized” enterprises, whereas other definitions (such as the definition from the Small Business Administration in the US) only mention “small firms”, covering all firms up to a certain maximum threshold. This paper denotes “small firms” and “small and medium-sized enterprises” as small firms/SMEs or simply SMEs, whenever a distinction of the size categories (micro, small, medium) is not necessary.

(2) The economic figures presented from the OECD and the EU are calculated on the basis of the definitions of official national bodies in the various OECD countries and regions, such as the European Commission in the EU and the Small Business Administration in the US.

(3) Some definitions (e.g. the definition from the European Commission) operate with a division of smaller firms into “micro”, “small” and “medium-sized” enterprises, whereas other definitions (such as the definition from the Small Business Administration in the US) only mention “small firms”, covering all firms up to a certain maximum threshold. This paper denotes “small firms” and “small and medium-sized enterprises” as small firms/SMEs or simply SMEs, whenever a distinction of the size categories (micro, small, medium) is not necessary.

(4) These institutions/regions are chosen since they represent different geographical areas and a selection of quite different definitions of SMEs.

(5) For further details about SBA’s definitions, see: http://www.sba.gov/services/contractingopportunities/sizestandardstopics/index.html.

(6) The search of journals and articles was done electronically, and it is therefore the last (the latest) electronically available year that was chosen for the study. For “Journal of Business Venturing”, “Journal of Small Business Management”, and “Small Business Economics”, this was 2007/2008.
For “Entrepreneurship; Theory and Practice” the latest available years electronically were 2006/2007.

REFERENCES


Evald, M., (2004), “Betydningen af ejerlederes vækstintentioner i mindre virksomheder”, in Iøjnefaldende anderledes?. ("The significance of owner-managers' growth intentions in smaller companies", in "Significantly different?").


Heldberg G. and Nielsen, K., (2004), “Fra oppkomling til veletableret virksomhed”, in Iøjnefaldende anderledes?." ("From upstart to well-established company", In "Significantly different?").


Sarasvathy, S., (2001), "Causation and effectuation: Toward a theoretical shift from economical inevitability to entrepreneurial contingency", Academy of management Review 42(3).


“SME and Entrepreneurship Outlook”, *OECD 2005*.

“SME definition, User guide and model declaration”, *EU Commission 2005*.

E-mail from Mr. Becerra, J., European Commission, Enterprise and Industry DG, Brussels, 8th July 2008.