



UNIVERSITÀ
DEGLI STUDI
DI BERGAMO

Dipartimento
di Ingegneria Gestionale,
dell'informazione e della Produzione

Non-accounting drivers of innovative start-up valuation by early-stage equity investors

A literature review and future research agenda

RELATORI

Tommaso Minola
Davide Hahn
Daniel Agyare

SEDE

R&D Management workshop
2021

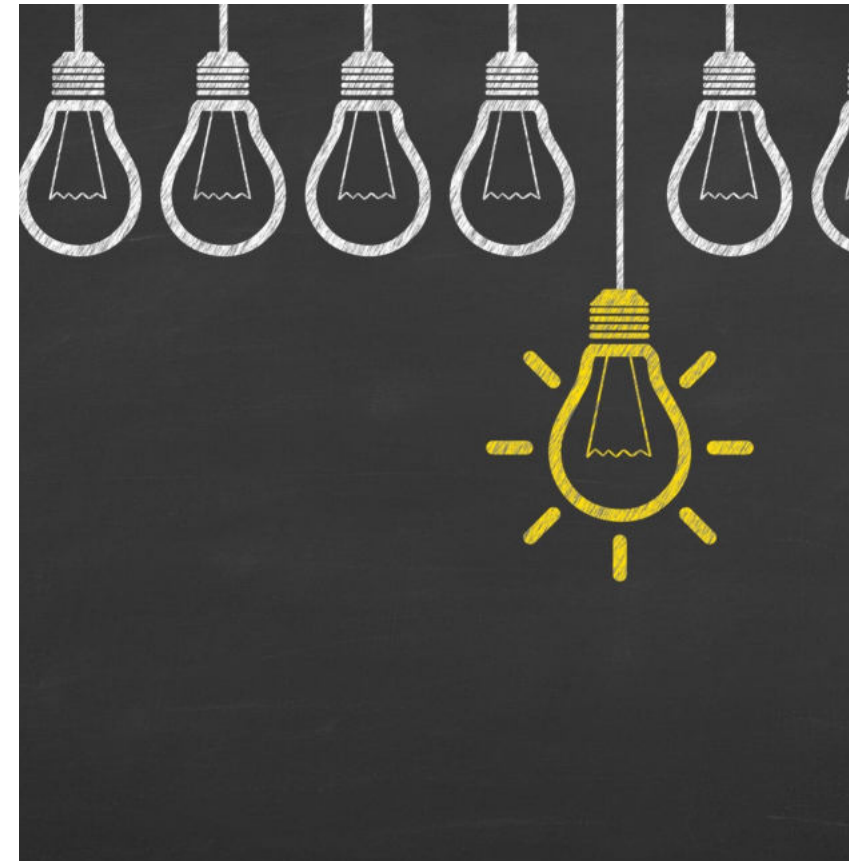
DATA

08-07-2021

Some definitions

Innovative start-ups (ISU)

- Innovative start-ups are ventures that are knowledge-intensive and research-based, young and independent and devote significant resources to research and development (R&D) and innovation” (Colombelli et al., 2020, p.1).
- Typical features of Innovative start-ups:
 - High level of asymmetric information
 - Lack of tangible resources
 - Lack of financial information
 - High level of economic and technological uncertainty
 - High cash burn

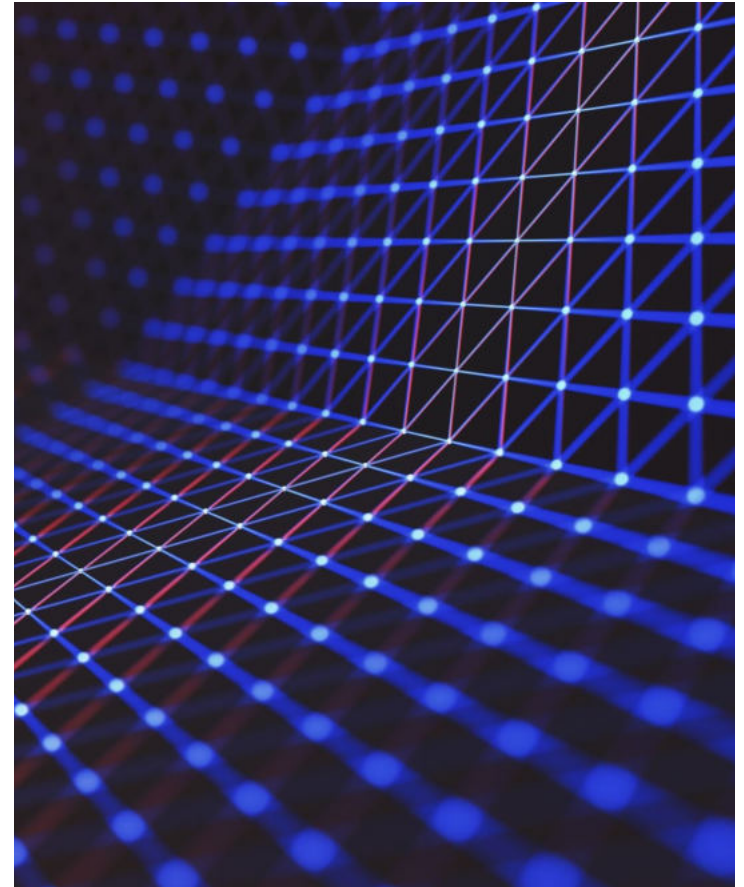


Early-stage equity investors

Early-stage equity investors include Business angels (BAs) and most importantly, Venture capitalists (VCs).

They are specialized in overcoming information asymmetries surrounding the financing of innovation.

They employ structured investment processes and are guided by selection criteria, which help them to deal with the uncertainty surrounding the commercialization of new products and services by ISU.



Motivation

The introduction of novel ideas, in terms of products and processes have made ISU a driving force for most developed economic systems (Colombelli, 2016).

ISU and young firms contribute disproportionately to net job creation (Halfiwangee et al. 2013).

According to Forbes, between 1977 and 2009, U.S ISU contributed to the creation of roughly 2M to 3M new jobs every year.

Examples of ISU

University of Strathclyde, Glasgow



What do they do? Assist people suffering from dementia

University of Leuven, Belgium



What do they do? AI-based software to help doctors improve interpretation of lung function tests and diagnosis of lung diseases

The Federal Institute of Technology (ETH) - Switzerland



What do they do? an online platform for booking tours, attractions, and activities worldwide



UNIVERSITÀ
DEGLI STUDI
DI BERGAMO

Dipartimento
di Ingegneria Gestionale,
dell'informazione e della Produzione

Introduction I

When such firms require equity financing from early-stage equity investors such as Venture Capitalists (VC) or Business Angels (BAs), the issue of valuation becomes critical (Sievers et al., 2013).

The corporate finance literature offers three traditional accounting methods such as the Discounted cash flow (DCF), asset-based and earnings multiple approaches, which are often used by early-stage equity investors in the valuation of a start-up.

However, given the particular features of ISU, traditional accounting methods are inadequate to assess the value of these firms.

Introduction II

Empirical evidence suggest that access to venture capital finance has been a key constraint for the development of ISU (Wright et al., 2003).

At the same time, venture capital firms lament the lack of sufficient investment propositions with attractive prospects for future wealth generation (Lockett et al., 2002).

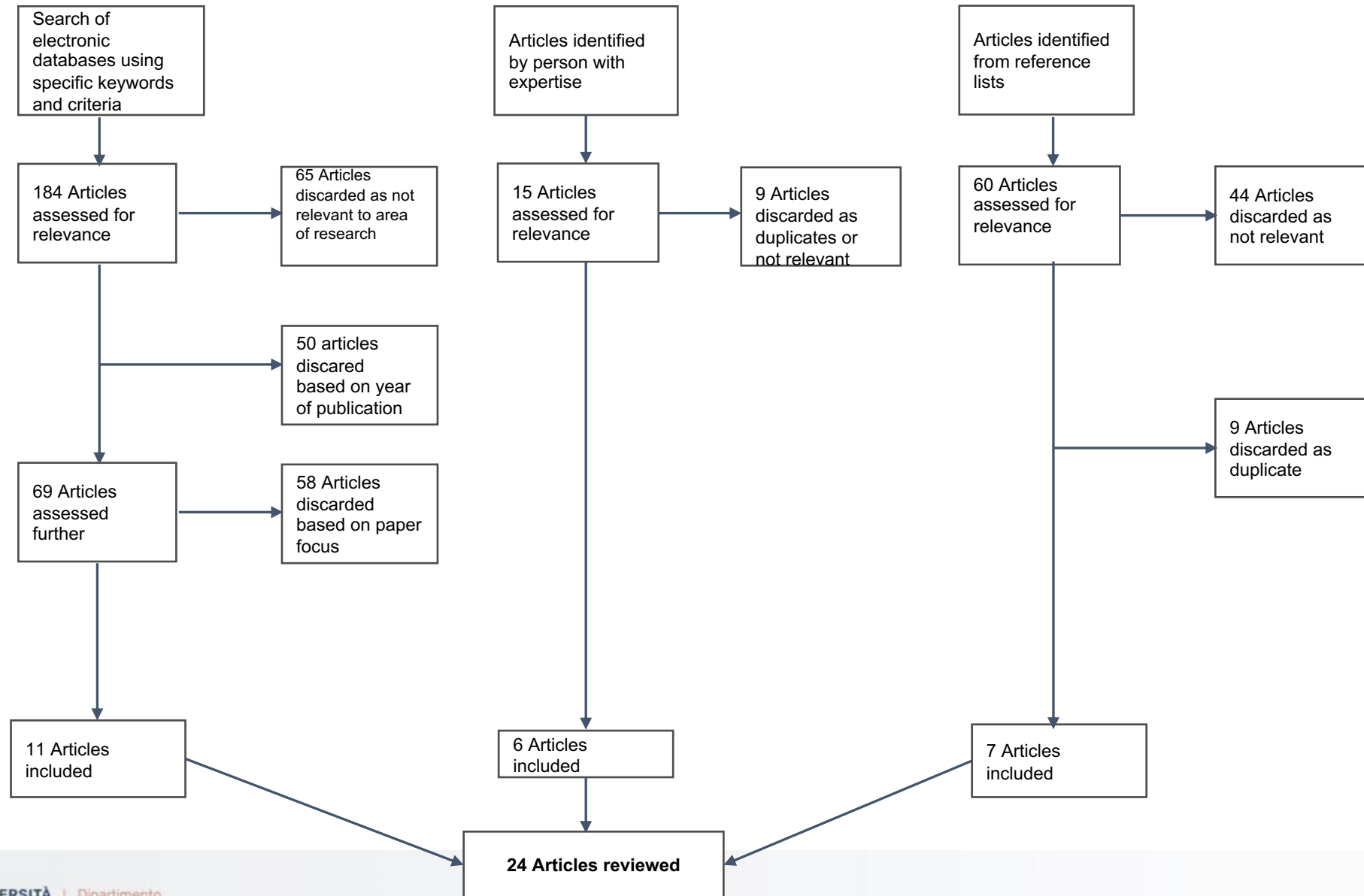
A central issue, therefore, is the the mismatch between the expectations of equity investors and ISU, especially at the early-stage.



Purpose

- According to Ge et al. (2005: 3) “when it is difficult to value a subject based on output (e.g., future cash flows), pricing it based on inputs (e.g., entrepreneur, industry attractiveness) might be an alternative solution”
- The purpose of this literature review is to explore the extent to which the literature has systematically recognized the role of non-accounting drivers (Inputs) of ISU and their valuation by early-stage equity investors.

Methodology



Preliminary findings I

Structure-Conduct-Performance paradigm

- Industry type (Eisenmann, 2020)
- Product differentiation (Dhochak and Doliya, 2019)
- Industry demand growth (miloud et al. 2012)

Resource-Based View

- Founder's experience (Ge et al. 2005)
- Founding team vs. solo founder (Visintin and Pittino, 2014)
- Management team completeness (Miloud et al. 2012)
- Network size (Ge et al. 2005)

Preliminary findings II

Signaling theory

- Patent (Greenberg, 2013)
- Trademark (Block et al. 2014)

Agency theory

- Equity ownership and control (Wasserman, 2017)

Research Gap

There is the lack of elaboration on the heterogeneity in the entrepreneurial opportunities exploited by innovative start-ups

We found no empirical study investigating equity investors' approach to valuation based on (or, at least, controlling for) the originating contexts of innovative start-ups.

Narrow scope of management and entrepreneurship theories relative to non-accounting drivers.

Future research agenda

In view of the limitations stated above, we propose that recognizing the university as a context of origin of innovative start-ups represents a valuable direction to advance valuation of ISU based on non-accounting drivers.



The University-Based Dimensions (UBDs)

01

Resources as
element of UBDs

02

Corporate
Governance as
element of UBDs

03

Goals as element
of UBDs

**Thank you for your
attention!**
