



HELPING SW AND TECH-BASED START-UPS SUCCEED: PROFILES AND TALENT SCALING-UP WITH INDUSTRY-FIT COMPETENCY MODELLING (PART I of II)

REFLECTION PAPER

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Introduction

This study or reflection paper, structured into two Parts (I and II), aims to comment on some ideas and trends regarding the **analysis, creation and nurturing of culture, capabilities and people competency profiles** that can help Software development and in general any tech-based startup, and mid-advanced stage companies, **attract, retain and engage the best professionals, scale-up, and succeed in their respective markets.**

In the times of Covid-19, we are having the assumption – challengeable perhaps –, that the worldwide economies will recover slowly, albeit in a way different from before. Possibly, we will witness much different consumption patterns, industries such as tourism, public entertainment, transportation, and others recovering slowly, localized supply chains and sourcing, more trade barriers, and the like.

However, the path of technology progress continues undaunted, and **IT companies in general and agile software startup and mid-sized companies can find opportunities in**

a much more digital, if only turbulent and unpredictable world. We consider that having the right profiles and competencies will be key to thrive from 2020 onwards.

Consequently, the present document is structured as follows to discuss adequate SW development and tech-based startups' competency profiles and talent build-up:

PART I of II

- People and organizational capabilities as key to a SW / tech-based startup success.
- Both technical and behavioral competencies matter.
- Having the right profiles: where shall we start?.
- Competency models: what are they, how can they help us.

PART II of II

- Towards a Competency model for SW / tech-based startups
 - (1) Model and IT considerations.
 - (2) Behavioral considerations and proposed Competencies.
- Competency profiles, fit with overall organization and how to use them.
- Competency Model implementation practices and steps; Conclusions.

Below we will be discussing Part I, conceptually linked to a separate Part II document.

People and organizational capabilities as key to a SW and tech-based startup success

For any company, finding the right set of competencies for the present (and for a future hard to predict), is a fundamental question to create **people and organizational capabilities and organizational agility**, which in turn bring about many benefits:

Fig. I-1: The top benefits of organizational agility¹



¹ “The Elusive Agile Enterprise: How the Right Leadership Mindset, Workforce and Culture Can Transform Your Organization”, Forbes Insights-Scrum Alliance Study, 2018.



This is even more important for a **startup company**, whose **DNA should precisely be defined by such agility**. However, this is not always the case and, as the organization grows and acquires more, diverse people, questions arise. How do we achieve and upkeep such organizational agility? What are its components or **required competencies**? And perhaps even more importantly, how do we **build and use those to attract, retain and develop excellent professionals and take the company to the next step**? How do we do all that in a Software startup environment? The answers are sometimes not obvious.

Creating a successful startup in general is a balancing act amongst many variables, often amidst environments of extreme uncertainty and volatility. Those variables could be grouped into “The Inner Dimensions” and “The Outer Dimensions”².

The former is basically Customer Relationship, Product, Team, Finance and Legal; the latter is most succinctly summarized by “Traction” – of Users, Customers, Product Usage and Revenue. **It could be said that one primary reason startups fail is that their Inner Dimensions get ahead of their Outer Dimensions – “Premature Scaling” occurs.** Or vice versa – **scale-up happens too little, too late.**

Considering that within the “Inner Dimensions”, Finance and Legal are support areas (even if very important), and that Product is or should be inseparable from the Customer and Product Usage concepts – essentially, they constitute the business idea itself –, we can see that **the Team and its related Customer Relationship element, understood in broad terms, are critical factors for a tech startup success.**

It is not surprising; it is well known that investors look at the Team as a fundamental variable in their decision making – the point is that, **from Seed Capital all the way to Series C and IPOs, growing a great performing organization is not just about the Founders, but about having a whole right team** – Engineering, fantastic Developers, a Salesforce, Support areas, and so on.

A faulty team equals company failure, an excellent team is necessary to grow at scale – and having one or another greatly depends on the **company values that you are pursuing** and the **competencies you are building.**

Both technical and behavioral competencies matter

One key point worth understanding from the start is that both technical and behavioral competencies matter for a Software or tech-based startup success. **Tasks increasing in importance tend to require soft skills across economies**³; as technology reduces the cost of some less relevant tasks, the relevance of the remaining tasks increases, especially

² “Global Startup Ecosystem Report - Why Startups Succeed or Fail”, Startup Genome-hellotomorrow-Crunchbase, 2019.

³ “The Future of Work: How New Technologies Are Transforming Tasks”, Fleming, M., Clarke, W., Das, S., Phongthientham, P. and Reddy, P., Research Paper, IBM Watson AI Lab, 2019.

those that require **intellectual skill and insight grounding - and common sense, judgment, intuition, creativity, and spoken language**. Software development and technology enterprises are not different.

But then, what company values are adequate to guide the emergence of an appropriate blend of technical and behavioral competencies?. Recently, MIT-Sloan experts interviewed dozens of executives, conducted a survey of more than 500 digital and traditional companies, reviewed management literature on culture, and examined published frameworks and stories of digital companies to assess how the various elements of their culture correlate with different types of self-reported great company performance. Four differential key values emerged:

Fig. I-2: Four differential Values found key by MIT experts for digital world success⁴

IMPACT		
Having big aspirations to change the world for the better and being willing to learn and fail fast to get there.		
SPEED	OPENNESS	AUTONOMY
Move fast and iterate rather than waiting to have all the answers before acting.	Engage broadly with diverse sources of information and insight. Share advice and information openly rather than keeping knowledge to oneself.	Allow people high levels of discretion to do what needs to be done rather than relying on formally structured coordination and policies.

In their own words: “recognizing the immense scalability of digital solutions, **digital leaders typically focus on creating impact**, assuming that profit will follow. At their best, these companies revolutionize how people and organizations interact, reinvent industries, and break the power of entrenched gatekeepers. The other three values support that mission:

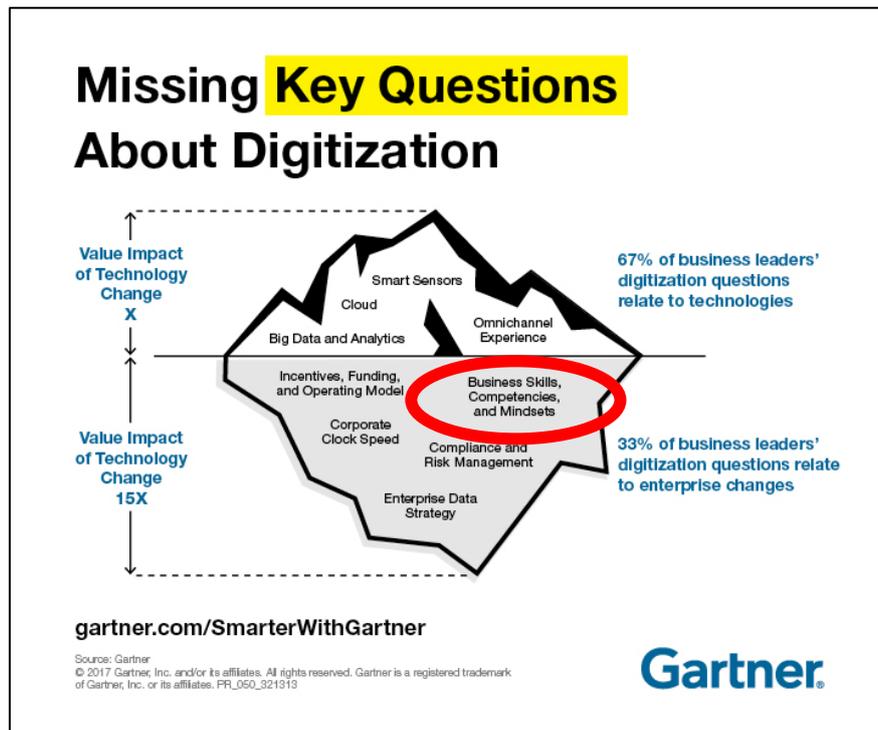
- **Speed** helps companies stay ahead of competitors and keep up with rapidly changing customer desires.
- **Openness** encourages employees to challenge the status quo and work with anyone who can help them achieve their goals quickly.
- **Autonomy** gives people the freedom to do what is right for the company and its customers without waiting for formal approval at every turn.

Together, these values can foster an engaged, empowered workforce where employees feel a personal responsibility to constantly change the company – and often the world.”

⁴ “Building Digital-Ready Culture in Traditional Organizations”, Westerman, G., Soule, D. and Eswaran, A., Research Feature, MIT-Sloan, 2019.

It is self-evident that **the four values above**, or similar formulations that can be found in different companies, **contain BOTH technological knowledge and behavioral aspects**. However, even companies that consider themselves “digitally advanced” or “digitally oriented” overlook the latter, which can be a costly mistake.

Fig. I-3: Important questions on digitization not often asked or solved effectively⁵



Enterprise changes and organizational readiness and mindset could have up to 15 times more impact on company success than technologies themselves. Knowing much Node.js, Python, Ruby on Rails, Kubernetes or Convolutional Adversarial Networks is important, but also is the work behaviors and people profiles that go with them towards achieving client satisfaction and business results.

Having the right profiles: where shall we start ?

We could start with a previous question: will we be having the people management / human capital practices or programs to make effective the values and competency profiles we intend to create? Or in other words, **will we be investing at least at a reasonable level in people?** Because if not, the whole effort will be wasted.

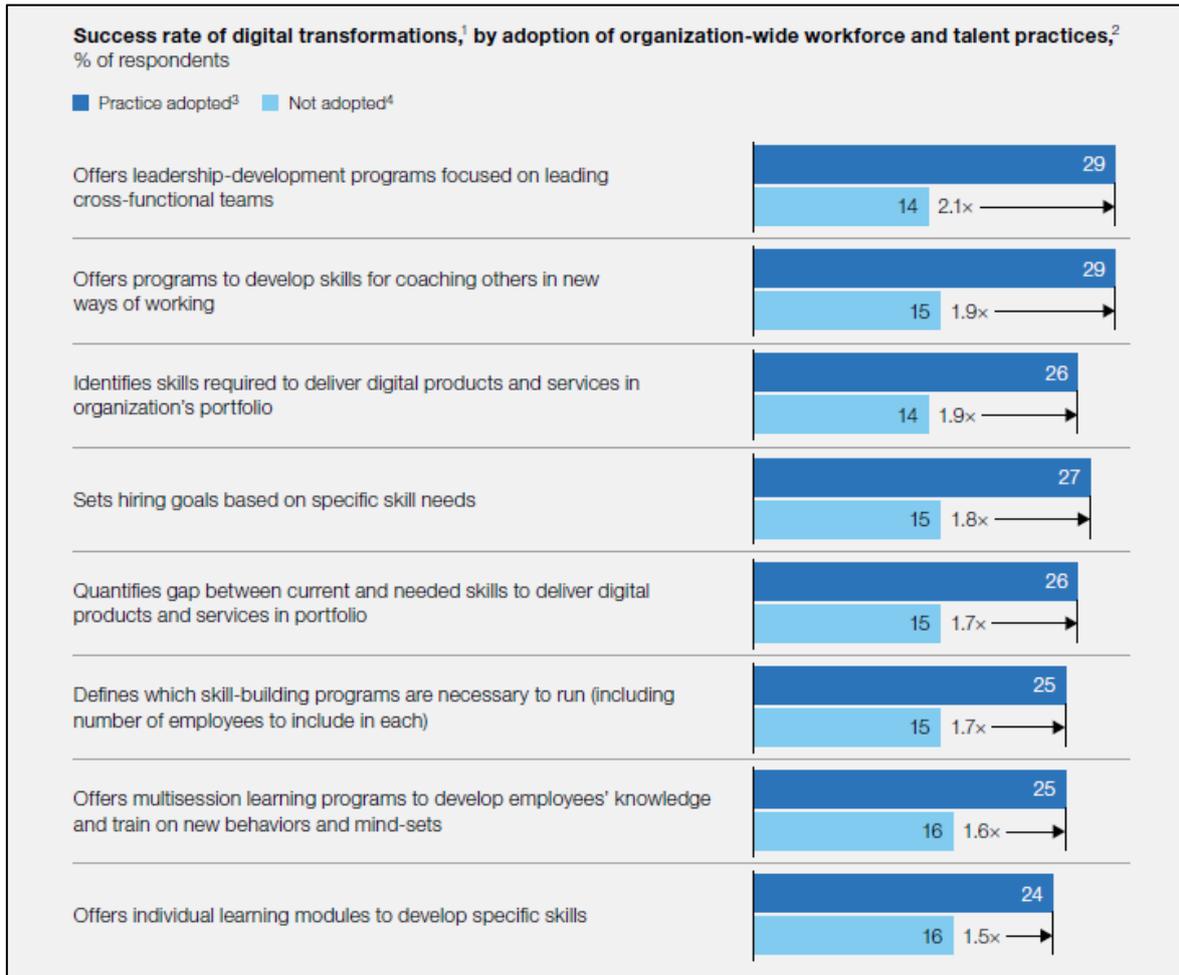
As we can see in Fig. 4 below, **success rate of digital organizations has much to do with leadership development, leading cross functional teams, developing coaching abilities**

⁵ “How CIOs drive digital acumen with their business colleagues to foster digital transformation”, Pemberton-Levy, H. citing Capella, J. (CEB), <https://www.gartner.com/smarterwithgartner>, Oct. 2017.

so that others can be trained in new ways of working, identifying specific skills to deliver the company’s digital product and services portfolio, etc.

Company values operationalized as a set of digital business practices, and then **competency profiles** definition, will conform a **robust, scalable framework** (the “runtime environment”) towards configuration of most, if not all, of those programs.

Fig. I-4: Digital success is more likely at companies with enterprise-wide workforce-planning and talent development practices,⁶



Within the scope of this reflection paper we will not delve deeper into the talent programs or practices above themselves (which are whole topics in themselves to be done correctly, obviously). **We will focus instead on discussing the more foundational digital business practices and competency profiles to be developed beforehand**, which can effectively direct the people practices above necessary to nurture and obtain the required SW and tech-based startup people profiles.

In this regard, successful digital companies seem to have some differential business practices:

⁶ “Unlocking success in digital transformations”, Global Survey, McKinsey, 2018.

Fig. I-5: Business practices in successful digital and “traditional” companies⁷

DIGITAL PRACTICES			TRADITIONAL PRACTICES				
<p>Rapidly experimenting</p> <p>Constantly and systematically experimenting, learning from the results, and quickly applying new insight</p>	<p>Self-organizing</p> <p>Collaborating fluidly across functional, geographic, hierarchical, and organizational boundaries to get things done</p>	<p>Driving decisions with data</p> <p>Collecting and using accurate data to make decisions and solve problems</p>	<p>Obsessing over customers</p> <p>Maintaining continual focus on meeting the stated and unstated needs of current and potential customers</p>	<p>Focusing on results</p> <p>Continually striving for measurable results instead of just processes and promises</p>	<p>Acting with integrity</p> <p>Being honest, behaving ethically, and striving for positive outcomes for all stakeholders</p>	<p>Seeking stability</p> <p>Aiming for reliability and predictability in stakeholder interactions, operations, and employee work life</p>	<p>Strictly conforming to rules</p> <p>Seeking to avoid problems and maintain reliability through rules orientation</p>

Interestingly, what comes across in this research is that the business practices “rapidly experimenting”, “self-organizing” and “driving decisions with data” are essential to the digital business; that “obsessing over customers” and “focusing on results” are shared both by digital and traditional companies – and moreover, **the MIT authors highlight that “acting with integrity” and “seeking stability” are practices “imported” from traditional businesses by the most successful digital ones so that the latter can grow in a sustained way.**

Therefore, answering the question heading this section: **translate these desirable practices into a competency model and competency profiles that will define what is expected from specific people to succeed and guide the actions needed to enable them to do so.**

Competency models: what are they, how can they help us

There are many definitions of “competency” and “competency models” in the market – many management and HR consultants large and small, recruitment and executive search agencies and technology companies alike sell their own different versions and tools, and even companies themselves come up with self-made articulations.

In this study, we intend to use the open-sourced and for-free **Competency Clearinghouse Model** (careerstop.org). **Well tested** and **solid** in itself, and very **comprehensive** including both **technical and behavioral aspects as opposed to other models**, in its **IT version** it is supervised by six different **top industry and academia associations** in the US with the input of 20+ other US and global organizations such as the World Wide Web Consortium (W3C), ITIL, European e-Competence Framework, regulatory agencies, etc., thus including directly or indirectly most of the major players in the world of advanced technologies.

⁷ Westerman, G., Soule, D. and Eswaran (Op. Cit.), 2019.

But at this point – **what is a competency** ? It can be defined as the **capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform “critical work functions” or tasks in a defined work setting** ⁸.

Not to be confused with “competence” (but leading to it), competencies often serve as the basis for **standards that specify the level of knowledge, skills, and abilities required for success in the workplace**, as well as potential measurement criteria for assessing competence attainment.

Example of a technical competency and a scale:

COMPETENCY	DEFINITION	OBSERVABLE DESCRIPTORS	SCALE
Fundamental IT User Skills	Using computers, communication devices, and related applications to input, retrieve, and communicate information.	<ul style="list-style-type: none"> • Demonstrates great familiarity with fundamental concepts and terminology of computers, SW, IS and communications. • Efficiently uses common computer HW, SW and communication devices to perform tasks and exchange information effectively. • Knows well and routinely deploys several common computer and mobile applications. • Uses computers and devices in a relevant and timely way to obtain needed online info and to interact with websites & web applications. • Understands and operates efficiently cybersecurity, equipment care, data protection and technology etiquette. • Supports and promotes use of technologies in the workplace. 	<p>A- Master user</p> <p>B- Advanced</p> <p>C- Standard</p> <p>D- Basic</p> <p>E - Struggling</p>

Example of a behavioral competency and a scale:

COMPETENCY	DEFINITION	OBSERVABLE DESCRIPTORS	SCALE
Problem Solving and Decision Making	Applying critical-thinking skills to solve problems by generating, evaluating, and implementing adequate solutions.	<ul style="list-style-type: none"> • Anticipates and identifies the true problems. • Efficiently locates, gathers, and organizes relevant information and identifies and covers its gaps. • Generates high quality alternatives and evaluates pros and cons. • Chooses / proposes best solutions for the company. • Implements or supports the solutions in a timely and pragmatic manner. • Communicates appropriately to impacted stakeholders. • Monitors outcomes and corrects as needed. 	<p>1-maximum</p> <p>2-very good</p> <p>3-good</p> <p>4-acceptable</p> <p>5-improvable</p> <p>6-very poor</p>

⁸ “Competency Models – communicating Industry’s Education and Training Needs – A Technical Assistance Guide”, Competency Model Clearinghouse (careerstop.org), 2019.

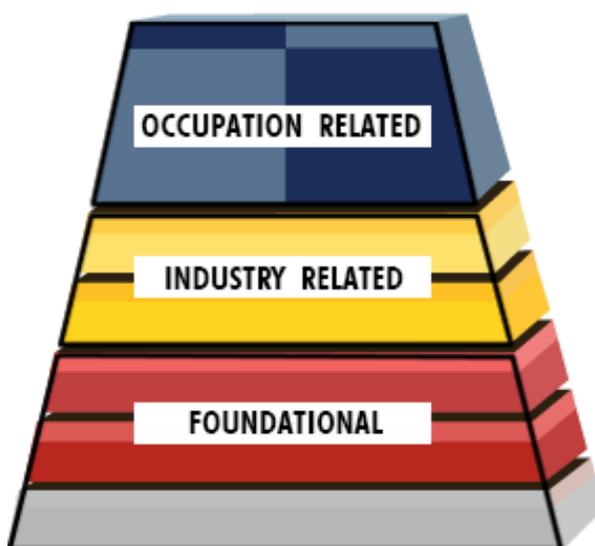
Correlatively, a **competency model** is an integrated **collection of competencies that together define successful performance in a work setting**⁹.

Competency models are the **foundation for important people management functions** – e.g., **recruitment and hiring, training and development, and performance improvement**, because they specify what is essential to select for or to train and develop. **Other uses** of competency models are:

- Career Exploration, Guidance and Counseling; Career Paths and Ladders.
- Workforce Planning and Labor Capability Pool Analysis.
- Position Descriptions and Placement decisions.
- Learning and Development Curricula (Planning and Implementation).
- Certification and License Needs.
- Communication of Industry requirements to authorities / third parties.
- Industry Modeling and relations.

There are many Competency Model formulations; the one we are presenting below is a possible one (Competency Clearinghouse); others could be implemented successfully.

Fig. I-6: The Competency Clearinghouse Model (10,000-meter-high view)¹⁰



This model has three main tiers with each tier containing a set of related competencies. The arrangement of the tiers in a **pyramidal shape** simply represents the **increasing level of specificity and specialization of content**. Moving up through the various tiers, the competencies become specific to certain industries and/or occupations:

- Occupation-Related Competencies:
 - Management Competencies.
 - Specific Occupation Requirements, Techniques and Knowledge.

⁹ “Competency Models – communicating Industry’s Education and Training Needs – A Technical Assistance Guide” (Op. Cit.), 2019.

¹⁰ “Build a Competency Model – General Instructions”, Competency Model Clearinghouse (careerstop.org), 2019.

- Industry-Related Technical Competencies:
 - Industry Sub-Sector Specific.
 - Industry-Wide.
- Foundational Competencies:
 - Workplace, Academic and Personal Effectiveness.

In the following sections belonging into Part II (separate document), we will go on suggesting **how an operational model can be set up**, and **what competencies and levels could be chosen for talent management** in a SW and tech-based startup or mid-stage company.

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