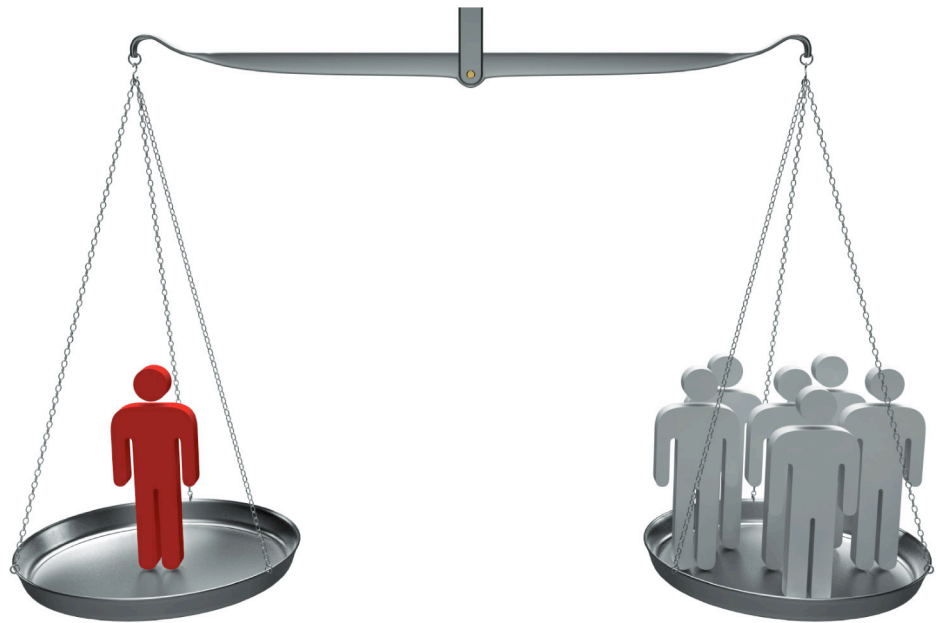


WingSpread Setting and Concept



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The elegant idea for balancing the fundamental equation
of work through the quantitative measurement of talent.

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WingSpread is a paradigm shift for leading and managing people in work. Technically it is a skills-based, internet-mediated, Software-as-a-Service offering. Its model, processes, and software are in stark contrast to competency, behavioral, and data mining approaches. At its most fundamental it links the demands of corporate goals to worker capabilities through the commonality of skills. In application it solves all of the conventional and many of new human resource challenges facing corporations in the Information Age.

Introduction

This is the first in a four part series on WingSpread. This paper grounds WingSpread within the realities of the Information Age by establishing its robust conceptual foundation. The second and third papers paper will build upon these ideas and describe WingSpread's specific values to modern corporations. The fourth paper will discuss future developments in WingSpread we feel will help shape corporate evolution in the 21st century.

The Information Age, Knowledge Workers, and Skills

It has been called the most important fact of our time. From the dawn of time to the present day, 108 billion human beings have lived on earth. To reach our present level of civilization, the human race has had to process the same amount information as we will be able to process, by electronic means, during the next ten years or so. The effect of this almost inconceivable expansion in our computational ability is the single most important fact of our time. The second most important fact of our time, a result of the first, is the rise of massive middle classes in China, Brazil, India and elsewhere. By 2012 humanity will have increased by one billion people, but in the same time knowledge workers will grow by 1.5 billion.

Knowledge workers are the people responsible for this information explosion. Knowledge work is defined as non-repetitive, non-routine work that entails substantial

levels of cognitive activity. The work of professionals and specialists, it is enabled by computers, telecommunications and robotics. From techies to CEO's, more than half of the US workforce are knowledge workers today.

Because of knowledge workers, technology has become an integral part of work life. The causes for its growth are more computer power, communications bandwidth, and increasing storage capacity at ever-reducing unit costs. As the price and performance of applied technology improves and grows exponentially, information technology and the effective management of information resources become all the more crucial to improving productivity. Knowledge workers are both the authors of and reservoir of these information resources.

And, because of their powers, knowledge workers are fundamentally changing the structure and functioning of corporations. Corporations are becoming organic. In the functional hierarchy of the industrial economy, patterned after 19th century military organizations, managers were bosses and exercised formal control over everybody else as subordinates. However, in organic organizations, knowledge workers really are the bosses while managers support them as planners and coordinators. In stark contrast to labor cultures, the modern measure of productivity -- optimum yields -- has become quality of output rather than quantity.

In the past, new human resource technologies focused on the blue-collar or clerical populations. But the bulk of US salary expenditures are for managers and professionals. Therefore the greatest productivity gains are to be had in improving the productivity of knowledge workers. Therefore, any human resource system that can measurably improve their management in corporations is of surpassing importance.

If the Information Age is all about knowledge workers, then knowledge workers are all about the skills they possess. Sequencing these skills and then mapping them to work and workers - understanding a corporation's genome - promises to transform human resources to a far different scale of operation in which all of an organization's goals and workers are examined in parallel. In practice the corporate genome is leadership's archive; containing the plans for each type of worker, the master program for generating a global company from a single thought, and the life cycle instructions that guide it from birth to adolescence and maturity. Understanding and guiding the organic corporation and its knowledge workers is the frontier of human resource technology.

Misalignment in a Wealth of Talent

The common myth is that there is a shortage of talent in the world. “Not enough to go around” opined The Economist in 2006. More recently 2008 surveys by Manpower and Deloitte found the same thing. That is not true. More knowledge workers exist now than ever before in human history. Educational institutions are turning them out at a prodigious rate all over the globe. In reality, the world is awash in skillfulness.

Indeed there is a shortage, but not of talent. The shortage is of ways to reliably align them to work; to assess the skills the work requires, to select those who possess them, to acquire them for enterprises, and to develop them to their potentials. This is the real shortage and it is the burden of Human Resource Information Systems (HRIS) to solve it.

HRIS have existed for more than three decades. They began as rudimentary database search engines and have evolved into complex analytical and business process management systems. The original stimulus for their creation was to protect organizations from costly regulatory penalties because government agencies required that certain human resource information be kept.

While HRIS have proven useful in collecting and storing such descriptive data, they are ineffective in gaining a functional understanding about the workers they describe. Though many technology providers have grafted on analytical capabilities incrementally through the years, these systems are still fundamentally transaction and process solutions – and they are designed for human resources departments, not leadership. They remain descriptive, not functional. They tell us what workers are (their innate traits and characteristics), not what they can do (the kinds of skills they exhibit in carrying out their jobs effectively). This failure has inspired us to develop a new class we call Human Resource Decision-support Systems (HRDS) designed to create information value for corporations contingent upon such organization factors as strategic goals, technology, structure, management style and the nature of the work force.

In practice such functional information has value two ways:

- By improving a few relatively important strategic decisions at the corporate or unit level. An example would be identifying and choosing better candidates for top corporate positions once or twice a year where each decision may have an impact of millions of dollars.

- By improving a large number of individual decisions, each with a relatively small impact. An example would be determining thousands of goal-linked training needs with an impact of hundreds of dollars each, but the aggregate value may be millions of dollars.

Put succinctly, three requirements govern the effectiveness of HRDS:

1. Their information must frequently correct wrong decisions,
2. The consequences of these corrected decisions must be measurably important, and,
3. The cost of providing this information must be demonstrably less than the costs of the wrong decisions.

These are demanding criteria. Any system which claims to meet them – to scientifically match workers to work -- must have a very convincing logical foundation. Here is WingSpread's.

The Logic of WingSpread

We begin with a very fundamental assumption. Any business enterprise must balance this relationship.

The work to be done must equal what the workers can do

But, for this relationship to be helpful, both sides of it must be reducible to a common, measurable element. The left hand side, the "work to be done", is commonly called goals. Importantly these goals can be corporate, unit, or positional.

The work to be done equals goals

Fortunately goals may be transformed to skills through this relationship.

Goals → Tasks → Skills

Corporate goals determine their required tasks which in turn determine the required skills. Through this relationship the "work to be done" can now be understood as the "required skills" of the corporation, unit, or position.

Work to be done equals required skills

Looking to the right hand side of the relationship, "what workers can do" are their "possessed skills."

"What workers can do" are their "possessed skills"

But possessed skills are like potential energy. Simply possessing a skill is not enough. One must be motivated to use it as well. This outcome is called performance.

Performance is equal to skills plus motivation

Such skills must be both necessary and sufficient to accomplish the goals. When they are, they become the definitive measure of the human assets of the entire organization, or of an individual worker. Now both sides of the original relationship can be expressed as identified and measured skills.

Required skills must equal possessed skills

We have now expressed both sides of the relationship in skills. The skills on the left are a deconstruction of corporate goals; those on the right are assessed from the workers.



This relationship is the governing dynamic of WingSpread. In practice it is two very complex landscapes of thousands of skills reflecting goals and workers. All of WingSpread's functions – from data collection to information delivery -- are attempts to balance this relationship. If it is balanced, the corporation is healthy. If it is unbalanced, the corporation either cannot accomplish its goals or is wasting its workers. This relationship is a creative tension between aspiration and skillfulness. It has guided human achievement from pre-history to the present, and sitting at its very core is the human skill.

A Guided Tour through Skills

For any hypothesis to be worthwhile, it must offer a workable definition for its key claim and expectation – in our case the human skill. Below we define what they are, what types are necessary to describe both goals and workers, how they can be quantified, and finally how they can be organized to describe very complex human organizations.

Definition

Here it is in one simple sentence. A skill is composed of two things; a specific body of knowledge, and the ability (or abilities) to apply that knowledge to performance:

$$\text{Skill} = \text{Knowledge} + \text{Abilities}$$

At its most elemental, skillfulness is the translation of knowledge into action. But, possessing knowledge alone does not lead to skillfulness. Likewise, possessing the requisite abilities without knowledge cannot produce skillfulness. While training can increase knowledge, the evidence is that abilities are "hardwired" at birth thus training has a modest effect on developing abilities beyond one's natural endowment.

The knowledge component of a skill is expressed through a mastery of its methods, processes, procedures, techniques, and tools. But knowledge by itself has no practicality in business. It must be applied. Unlike textbook information, nothing is learned for its own sake. Every skill must be relevant and useful in the context of the work. When it loses this relevance, it becomes extinct.

The abilities component of a skill enables this knowledge. They are the conduit through which the skill's body of knowledge results in performance. An example from sports illustrates this point. All professional baseball players have the knowledge of how to hit a pitched ball. But actually hitting the ball depends, in large part, upon the ability to "see" it. Most professionals have the ability to see a pitched ball at a frequency of about 20 to 25 "frames per second" (compared to 10 to 15 frames per second for the rest of us). This is the number of discrete pictures they perceive of the ball coming toward them. In contrast, extraordinary batters at peak performance are able to see about 40 frames per second. With this ability - they describe it as "slowing down time" -- they can read the signature of the league president on a 100 MPH fastball. While a .200 hitter and a .320 hitter may have identical knowledge of hitting skill, they have vastly different

abilities to perform it. This same ability to visually slow down time is found in other athletes like extraordinary hockey goalies.

In business, the abilities component of skills is necessary in all functions. Examples are; accomplished financial analysts and computer scientists have uncommon pattern recognition abilities, great senior executives and corporate planners have the ability to visualize alternative "future histories" with ease, and expert salesmen are able to perceive kinesthetic cues (e.g. changes in pupil size, sweating, body postures) from their customers most of us would edit out.

Abilities seem to have human, conceptual and technical "flavors." Human abilities enable exercising a skill effectively in a social context. The ability to teach a skill is an example. Conceptual abilities allow workers to practice the skill in many social contexts -- the team, the organization, the nation, the planet. Designing a computer program that is understandable to grandmothers, the general workforce and not simply techies, is an example. Technical abilities determine the fundamental facility in practicing the skill. For example, the pattern recognition ability that facilitates code debugging in programmers, is used in the analysis of financial statements, the interpretation of x-rays, and the evaluation of search candidates. The fundamental ability is the same but the bodies of knowledge for each application are completely unique.

Think of it as chemistry, not physics or math

What is of great practical import to WingSpread is that it does not claim to measure the knowledge or abilities components of a skill. It measures the totality that is the skill itself. A metaphor drawn from science is helpful in understanding this important distinction between WingSpread and competency or behavior models. WingSpread is concerned with the "chemistry" of human-work relationships, not the "physics" or "mathematics" attempted by other systems. We view the skill as the basic atom of human behavior in work and do not attempt to measure its sub-atomic particles. If a skill is the atom, then specialties and functions are skills that have bonded into increasingly more complex molecules.

The power of this metaphor is that it describes an approach elegantly simple; one that reduces the complexity, costs, time, and expertise required to understand and manage people and work. At the end of the day it is how these skill atoms and molecules interact through the catalyst of motivation that produces performance.

Skills and performance

Skills and performance are intimately linked by the following relationship:

$$\text{Performance} = \text{Skills} + \text{Motivation}$$

This is a form of “Pascal’s Wager” applied to business. Clearly a worker must be both skillful and motivated in order to perform. Any other combination either seriously reduces performance or extinguishes it. Again, Wingspread does not directly measure motivation, but when it is missing in otherwise skillful workers it becomes painfully obvious.

Types of skills

A further reduction in complexity comes by recognizing that only three types of skills are both necessary and sufficient to describe any organization’s goals and its workers. They are technical, leadership and management skills. Technical skills describe an understanding of, and proficiency in, a specific kind of activity, particularly one involving methods, processes, procedures, or techniques. Leadership skills focus upon establishing direction, aligning people to that direction, and then motivating and inspiring them. In important contrast to leadership, management skills involve planning and budgeting, organizing and staffing, and, controlling and problem-solving.

Now that we know what a skill is and the necessary types, how are they evaluated?

Quantization

There are six levels of skillfulness measured by WingSpread. From lowest to highest they are unskilled, conceptual, functional, proficient, expert, and innovative. These terms have been carefully chosen because our research shows that progression from one level of skillfulness to the next is not linear, but exponential. Progression is not simply a matter of acquiring more specialized knowledge of the skill, but also demands the abilities to apply that knowledge. As we stated earlier such abilities are most likely inborn. For this reason skillfulness is ultimately limited by the genetic endowment of the individual.

Given the qualitative and quantitative complexity of skills in any large company, how can they be organized so as to make sense of the whole?

Taxonomy

The historicity of human organizations from pre-history to the present provides us an insight. Humans always have evolved hierarchic organizations to accomplish complex goals. They begin with fundamental skills. As these skills grow more refined and numerous, they spontaneously combine into closely related groups we call "specialties". If the organizations continue to grow, specialties naturally coalesce into larger, more distantly but still related complexes we call "functions". This taxonomy can be seen by simply walking down a hallway of any large corporation. The titles on the doors become a guided tour through a function, specialty, skill taxonomy of the organization. The entire hallway may house a complete function. A few adjacent offices along that hallway will be specialties within it. Stop and ask any one of those inhabitants what they are doing and they will tell you of the skills required by it.

Such spontaneous organization has ancient origins. In prehistory hunting was certainly a necessary function. Within it spear crafting became an important specialty, and point napping evolved as a crucial skill within it. In parallel, modern corporations require a finance function to survive. Accounting is a necessary specialty within it, and one of its crucial skills is cost accounting. Compelled by these examples, WingSpread has adopted the function --> specialty --> skill taxonomy as an architecture within which to sequence and map all skills in complex organizations. But any skills inventory is only as good as its skills libraries.

Skills libraries

Skills libraries are very large, complex, and dynamic. They are shaped by history as goals change and workers grow. New skills are born and ineffective skills become extinct. For these reasons they must be extensive (able to assess the broadest worker), intensive (able to assess the deepest expert), current (reflecting of the skills currently in practice), and well defined (with robust skills definitions).

Everything old is new again: the evolution of skills inventories

Skills inventories are the oldest way of assessing people in work. They long predate data mining, behavioral, or competency approaches by decades. The original inventories were elegant, precise, Oxford Dictionary-sized tomes filled with skills statements and check boxes. They were totally impractical because no one would complete one twice.

Three discoveries made them practical. The first was the invention of the Alto, the first

personal computer, by PARC in 1973 (so that we could collect and manipulate the data). The second was Robert L. Katz's insight and intellect in defining what a skill was in 1989 (so that we knew what to measure). The third has been the pervasive growth of the internet (so that we can reach anyone). It is the constellation of these three forces that makes WingSpread not only possible - but inevitable.

Conclusion

At its simplest, WingSpread is the story of two very complex data landscapes - one derived from corporate goals, and the other assessed from its workers. The former tells us what skills are required. The latter tells us what skills are possessed. It then uses some very clever software to transform the data within these landscapes into scientifically defensible answers to important people questions. We began this paper by arguing that the alignment of work with workers was the crucial human capital problem of our day. This is how that alignment can be achieved.

Our second and third papers will build upon the foundation established here and describe how WingSpread collects skills data, how that data is evaluated and transformed into useful information, and then how that information is delivered to corporate and individual clients in answer to their very important problems.

About the author

Wayne Reagan is the Founder and Chief Executive Officer of WingSpread. With over thirty years of experience in retained search and corporate strategy consulting, he is a recognized expert in the field of Human Capital Management. Wayne began his career by forming Delphi Systems to redefine the recruitment industry, through which he developed the Blackbird executive development program and WingSpread. Wayne is also an accomplished author with works published on organizational behavior, political science, history, medicine, and computing.

About WingSpread

WingSpread™ addresses the fundamental equation governing Human Capital Optimization: “The work to be done must equal what workers can do.” Skills are the critical element in solving this equation as skills are measurable and quantitative. Developed from over 30 years of experience in the fields of executive recruiting and corporate strategy, WingSpread™ applies an innovative methodology and web-enabled “SaaS” analytics technology to help organizations to evaluate talent and take decisive action. Our solutions enable companies to overcome challenges of talent recruitment and development, corporate restructuring and mergers and acquisitions to achieve better returns on their investment in human capital.

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