State-of-the-Art Technology Practices in Corporate Communications and Global Talent Operations – Building and Activating a Cognitive Enterprise
(NTT Communications Case Study)

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Abstract

The early 2000s brought over an intrinsic change in the way businesses operate. Many organizations experienced a fundamental transformation in the way people connect, work and co-create value for the business and the wider scope of stakeholders. This transformation was supported by the rapid development and implementation of collaborative technology, as well as by a major metamorphosis of working styles: remote work (tele-work), alternative employment, dual carriers (double employment) and many others. Corporate Japan has also experienced a major shift from the traditional physical office-based, life-time employment to a wide variety of working agreements and collaboration styles. This paper analyzes how digital technology has eased cross-divisional collaboration and value co-creation at NTT Communications, a subsidiary of Nippon Telegraph and Telephone (NTT) Corporation, the largest telecommunications company in Japan.

1. Introduction

Over the past decades, information has become abundant and more accessible that ever in the past. People do not need to remember much any longer; information is readily available at a touch of a smartphone or access to the world wide web. Prior to this fundamental transformation in information availability,

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people and organizations were focused on collecting, storing and hoarding information, often attempting to create competitive advantage. As information becomes abundant and readily available, hoarding it no longer leads to the creation of any sustainable advantage. Rather, knowing to interpret data and further it put it to best use by sharing information and developing co-creation opportunities through collaboration has rapidly become of interest to many organizations. This underlies the goals of the Enterprise 2.0 movement.

Enterprise 2.0 was defined by Carl Frappaolo and Dan Keldsen (2008) as a system of web-based technology which provides rapid and agile collaboration, information sharing, emergence and integration capabilities in the wider enterprise.

Supported by high quality videoconferencing, data sharing and co-creation technology, cross-divisional collaboration has become intuitive and easier to implement, leading to new employee behavior. Prior to Enterprise 2.0, protecting paper-based knowledge and human resource and was the primary role of a manager in the 1980s and the 1990s. During early 2000, paper file cabinets were rapidly replaced by a data file system, based initially on intranet storage and later migrated to external data bases and, ultimately, to cloud, marking the heydays of Industry 4.0 and the digital transformation.

The digitalization of information has made it easier to store and access information. Nevertheless, it has also made things more complicated for information seeker, as data is abundant, often unsorted, contradictory and confusing. The digital-age employee is frequently confronted with too much information, obsolete, wrong or irrelevant data. Information access has surely become faster but being able to access the "right" information is still a relatively tedious process, requiring new essential skills: complex problem solving, critical thinking, creativity, data literacy and emotional intelligence (EQ).[6] It is worthy to note that, according to the World Economic Forum, in 2020 critical thinking was raised two ranks higher than in the previous white paper published in 2015, while creativity was raised seven ranks.

The digitalization of operations redefined human resources once Software as Service (SaaS) models became commercially available. HR Saas industrial leader SuccessFactors was founded in 2001 by Lars Dalgaard. The company established in South San Francisco (CA) and it went public in 2007. SuccessFactors entered the NASDAQ Global Market under the stock symbol SFSF. In July 2008, SuccessFactors expanded globally following their move to the NYSE, NYSE Euronext, and the Frankfurt Stock Exchange (Deutsche Boerse)[7]. SuccessFactors offers services in 41 languages to more than 6,400 customers with over 100 million users in 60 industries in over 100 countries. SuccessFactors has grown though repeated merger and acquisitions and goes to market through

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[6] World Economic Forum, "The 10 Skills You Need to Thrive in The Fourth Industrial Revolution". Retrieved 2020-04-11.

[7] Lucchetti, Aaron; Strasburg, Jenny (6 April 2011). "Amid Exchange War, Nasdaq Loses a Battle". *The Wall Street Journal*.

independent channels, as well as through strategic collaborations with technology mega firms, such as IBM, Oracle and Alphabet.

The way business is done in Human Resources has also been challenged and redefined by the recent commercialization of Customer-Relationship Management (CRM) solutions provided by Salesforce.com, Inc., another American cloud-based software company headquartered in San Francisco, California. Along with CRM solutions, Salesforce sells a complementary suite of enterprise applications focused on customer service, marketing automation, analytics, and application development. The *Fortune* magazine ranked Salesforce at number six on their Fortune List of the Top 100 Companies to Work For in 2020, based on an employee survey of satisfaction carried on during the previous year[8].

Recent developments in Robotic Process Operations (RPA) have further transformed the way business is done in the field of human relations globally. Romanian entrepreneurs Daniel Dines and Marius Tirca founded UiPath, a global RPA and RPAAI company in 2005. Following a series of acquisitions in 2019, UiPath has become the first vendor of scale to bring together both process mining and RPA. Research and advisory firm Gartner describes the combination of RPA with process mining, AI, machine learning and analytics as hyperautomation.[9] Similarly to SuccessFactors, UiPath goes to market through a combination of individual and independent channels, as well as through strategic partnership with technology mega firms.

Incumbent technology firms have also been developing and commercializing smart technological solutions for talent operations and organizational architecture. IBM has focused on the development and implementation of cognitive enterprise solutions both internally for corporate operations needs, but also for external commercialization. Cognitive technology solution such as Watson Talent and Your Learning have been marketed globally, in an effort to help ease human resource processes and to enhance the efficiency of organizational engineers and talent operators.

2. Research Methodology

The main objective of this research is to illustrate the benefits for organizations to explore multiple cognitive technology options, to prototype and adopt customized versions of the existing options in talent operations and organizational architecture.

NTT Communications and its major subsidiary companies (December 2019 – April 2020). A subsidiary of Nippon Telegraph and Telephone (NTT) Corporation (the largest telecommunications company in Japan and one of the

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[8] Snouwaert, Jessica. "The 25 best companies to work for, based on employee satisfaction". Business Insider.

[9] Panetta, Kasey (2019), "Hyperautomation, blockchain, AI security, distributed cloud and autonomous things drive disruption and create opportunities in this year's strategic technology trends", Smarter with Gartner.

largest in the world), NTT Communications was founded in 1999. It has been providing network management, security and solutions services to consumers, corporations and governments. Kyoko Yamamoto was appointed Senior Director of Human Resources and Global Head of Talent in 2015 and she committed to modernizing the organizational architecture and incumbent talent operations, while promote Diversity and Inclusion (D&I), in an effort to create operational agility and to help the organization embrace a wide range of modern technology. Yamamoto worked with her team of 68 talent operators and organizational architects to review existing HR technology and to determine opportunities for revamping people operations, while implementing artificial intelligence (AI) empowered collaborative technology, cognitive and intelligent operations and Robotic Process Automation (RPA).

The authors conducted research based on an actual business case study, as they engaged in first-hand participatory observation[10] of this technology induction process. The authors could observe various stages of transformation, such as the initial corporate confusion and the various stages of decision making, with the eyes of on-the-job team members, from the start of the project until the end.

3. NTT Communications – Transiting from "Ordinary HR" to "Modern Technology Integrator"

After a series of debates on which cloud native technologies needed to be adopted in order to ease talent operations and to enhance employee engagement, NTT Communications entrusted the HR Senior Vice President Kyoko Yamamoto with the mission of exploring the options in January 2020. A talent operations veteran, passionate about both technology and people, Yamamoto called in her team to discuss options for introducing collaborative platforms, asynchronous communication software and cognitive technology which could help ease operations and engage Japan-based NTT Communications talent into agile cross-divisional collaborations. A previous employee survey from December 2019 indicated that only 16% of the Japan-based employee population though technology could promote collaboration and 28% was interested in cross-divisional engagements, although the SAP SuccessFactors software as a service had been installed and was already operationally running throughout organization globally.

The upper-echelon theory states that organizational performance is determined mostly the executive team (Hambrick and Mason, 1984). A firm believer in organizational ecology and evolution, though, Yamamoto was considering that the operating environment had changed, and time had come to allow external elements such as social changes and technological factors influence the way business was done at the firm.

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[10] Yin, Robert(2003), *Case Study Research: Design and Methods*, SAGE Publications, Inc; Third ed

Yamamoto's team realized after repeated engagements with the global board of executives in 2019 that organizational evolution cannot be harnessed only through though exposure to the new realities of the operating environment. "Cultivating smart leadership skills and culture is imperative for a successful cognitive enterprise because change starts from within. Leaders need to create a culture and environment where employees can embrace change, they can learn fast and learn as they go."[11]

"Leaders need to combine technology with business acumen and empathy to be able to develop a clear point of view about their organization's strategic direction and they need to embrace disruption and become change agents themselves. No longer can they avoid disruption; they need to embrace it, and one way of embracing it is to become more tech savvy themselves. Leaders need to have a firm grasp of what exponential technologies actually do, how they are executed, so they can begin to appreciate the transformative and disruptive power associated with technology and how it can affect the different dynamics of their business."[12]

NTT Communications Talent Operations Manager T. Tanaka points to that technology adoption initiatives needs to be orchestrated at various levels of the organizations and communication cascades need to be carefully engineered in order to ensure thought alignment and behavioral transformation at all layers through a timely implementation of a culture of collaboration and through a significant re-definition of the employee value proposition. "I think a way to think about it is you really need to start to move to think like a startup not in the context of every company's a startup, but to continually ask the question, how could these exponential technologies change my value proposition? So, the intent is to ultimately foster a culture of collaboration and innovation across the entire ecosystem. So, the way to do that is to set some direction and guide bars and then figure out how to kind of drive it faster both through agile ideation as well as execution. But it's all in under that purpose of trying to drive that culture of collaboration. "[13]

Talent operators need to be open not only to a new operating model, but also to new rules of engagement across the enterprise as well as to introducing new skills within the organization, skills associated with the new rules of engagement. Talent Operations Senior Manager M. Ogasawara claims that "we need to expand the ecosystem, make it a wider, and a more open ecosystem where you're establishing relationships. And that needs to happen from within the organization, but also from the C suite to the enterprise and across the ecosystem. It all depends on whether the organization can ultimately foster this culture of collaboration both top-down and bottom-up. Leaders will drive accountability for new workflow aligned skills, right? So, we have these mission critical workflows that we're bringing intelligent workflows and we're aligning skills around these workflows.

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[11] Interview with K. Yamamoto – 13-12- 2019.
[13] Interview with T. Takana – 12-12-2019

And the leaders are going to be accountable for the establishment of the skills so much so that the leaders will become a champion for this kind of comprehensive reskilling and reinvention of the workforce. "[14]

This type of transformation includes knowing what new skills will be needed, when and where they will be needed across different intelligent workflows and how incumbent roles and responsibilities are impacted by these intelligent workflows. "So, now we're thinking about kind of all the different elements that are involved and associated with it like relocating resources with more frequency, moving employees into new teams, and having a team-based philosophy as well as new areas of responsibility. And that creates an environment of learning, and it's an environment of learning by doing and iterating through, and that powers employees to act. Employees will begin to adapt in a fast-changing environment; and as they continue to adapt in this fast-changing environment, they'll empower these intelligent workflows to have far more commonality across the enterprise. "

A recent employee engagement survey confected in April 2020 indicated that 61% of the Japan-based NTT Communications employee population believed in cross-divisional collaboration and though that technology could promote internal and external collaboration, 88% was interested in cross-divisional interactions and 68% was already taking initiative to connect across departments and to create opportunities for collaboration and cross-divisional value creation.

4. Discussions and Actions

The Talent Operations team soon realized that simply onboarding cognitive technology would not change the way people act. The team adjourned on the 13th of January to brainstorm options of changing the architecture of their team organization and, along with that, to discuss new roles and functions that would be needed in order to be best equipped for the upcoming way of doing business. As the result of this first round of discussions, the team developed two sets of proposals – one for realigning the talent operations in the two sectors of talent acquisition and talent management, and a second one for renaming existing roles and creating new titles to best illustrate the way work would be done in the future and for the associates themselves to be able to see their own work in a new manner, conducive to a new type of behavior. The new titles were connected with the new skills that the associates we expected to embrace: social connector, talent scout, talent development agent, capability planner, etc. Having these new titles written on their business cards and digital signatures, the associates were nudged into adopting not only new skills, but also new attitudes, being, thus, one step closer to the future reality of their ideal team format.

As the "anywhere office" type of remote working arrangements was rapidly becoming standard within the industry, the team further discussed the importance of enhance the agility of the team through seamless collaboration. As a

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[14] Vlad, Cristian (2019), "Interview with M. Ogasawara"

result, the talent operations associates decided to utilize Slack and Zoom within the team, in order to be able to share relevant information in a timely manner and to be able to connect any time, anywhere.

After a month of working under the newly adopted titles and the new collaborative technology, the talent operations associates adjourned for a second round of brainstorming activities on February 10 further define their news titles. As a result, the social connecter group further branched out with a whole new set of job titles, such as: community gardeners, futurists, place planners, solution engineers, chief technologist and people capability planners. The team acknowledged the fact that the new titles and job roles had affected the way they saw their work and also the way they were thinking about work. While the new titles had instilled a special type of pride in the relevance of their work, the employees acknowledged that by simply working under these titles the way they were behaving towards each other and towards employees from other divisions had also changed. They felt un unspoken pressure to adjust their behavior so that they live up to those tiles. This change in behavior was observed not only by other team members, but also by colleagues from other departments and also by various members of the executive board.

On March 2, the talent operations team adjourned for the third time to brainstorm how internal collaboration could be further enhanced, while making way for new and innovative solutions. This time, three overseas members were invited to participate in the brainstorming session. As the Covid-19 situation was rapidly changing the way business was done around the world, the international members pointed out to the upcoming remote working limitations, while indicating that cross-regional collaboration through the newly onboarded technology could unleash a wealth of innovative initiatives, while helping headquarters talent practitioners connect with their counterparts overseas and develop further organizational synergies.

As a result of the social distancing norms enforced throughout the country later in the month, by April 6 the whole talent operations team was working on the newly onboarded cognitive technology plateform remotely, connecting regularly with their overseas counterparts and collaborating on a new series of innovation initiatives globally.

Yamamoto herself is a firm believer in the fact that diversity is core competency for meaningful innovation and business transformation. "These days, meaningful diversity as an HR initiative is really more important than ever. Discussions with diverse members usually lead to better solutions. Without a strong commitment to learning from diversity, we cannot talk about inclusion. It would merely be tolerance of differences, and that is not what we want at NTT. Therefore, our daily operations are engineered for inclusion and engagement. We strive to create an environment where diversity is celebrated and everyone,

regardless of their level of seniority or executive authority, needs to understand the importance of learning."[15]

5. Conclusion

The focus for enterprise experience in humanity is about opportunities created by pervasive exponential technologies. Talent operators need to consider three areas: elevating the human technology partnership; cultivating smart leadership skills and culture; performing with purposeful agility. The focus here is to elevate work and skills of employees to meet the aspirations of partners and customers and employees. Then, the enterprise experience is designed to ultimately enrich the lives of humans.

Elevating human technology partnership needs to be the ultimate reason for modern technology adoption. The establishment of a human centric design for enterprise experience combined with an agile orchestration of compelling and trusted human technology interactions will lead to creating a trusted and dynamic human-technology partnership.

In order to install and successfully activate human-technology partnerships, businesses need to determine new ways to instantiate new core values, to motivate beliefs in people and to embody the wider societal intent alongside the traditional stakeholder values. Businesses need to bind customers and partners and employees alike to each other and to the enterprise. By doing so, a deeper sense of trust, collaboration and commitment needs to be established, along with greater loyalty from customers, higher motivation and engagement from the employee side, and even a greater commitment from partners throughout the value chain.

In order to cultivate partnerships within the organization, talent operators can employ Ontological (Human Centered) Design and cognitive science practices to nudge behavioral transformation. Ontological Design implementation tools, such as Design Thinking methodology, experiential learning, and feedback loops can further support the development and the sustainability of internal and external collaborations. Experiential learning is particularly important as organizations are already utilizing machines in the process of experiential learning internally.

Another way of cultivating sustainable internal partnerships is creating environments where employees can innovate exponentially. The employees need physical and digital opportunities to innovate again and again and see how they can incorporate each effort of transformation into the overall enterprise journey. They need access to data and tools for continuous learning. Concurrently, organizations need transcend from interacting with technology to partnering with technology in order to be able to perform with purposeful agility. Digital transformation, diversity of talent and purposeful agility are critical to the Cognitive Enterprise. Diversity helps teams to generate breakthrough ideas; and in turn, that empowers

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[15] Vlad, Cristian and Yamamoto, Kyoko (2019), "Diversity at NTT – How to Manage a Japanese Global Business in a Changing Age".

teams to take ideas and turn it into outcomes. Organizations need to bring together teams and leaders across IT and business as well as ecosystem partners, and they need to drive value and outcomes for a successful organization as a collaborative whole.

Iterative ideation and limited governance are two themes that help drive outcomes faster and continuously. At the same time, the earlier organization adopt agile principles and a Design Thinking mindset the faster they can align their talent around a Cognitive Enterprise mindset in order to develop and implement intelligent workflows and to reconsider measurements and tools for organizational success.

Leaders need to push decision making to the lowest levels, not that everybody can make decisions of all varieties of tasks, but rather, to instill both creativity and responsibility within unbridled working teams. Smaller working groups and cross-functional teams need to be invested with the ability to execute and then realize outcomes quicker and do deliver value both internally and externally in an agile manner.

The following main results could be observed:

1. Technology adoption alone does not change mindsets. Carefully planned and executed talent engineering initiatives need to accompany the adoption of the new technology in order to make it relevant for the associates and to ensure timely adoption.

2. Behavioral transformation can be ushered in through ontological design initiatives, such as designing physical and digital experiences conducive to the adoption of new values, aspirations and an enhanced appreciation of how the newly adopted technology will ease processes and enable individual development.

3. Japan based talent operators can play key innovative roles in developing and deploying corporate culture and value penetration when connected with a variety of trusted external contributors and when diversity of thought is engaged at an early stage.

4. Collaborative technology supports internal and external culture dissemination by creating psychosocial safety and cognitive processes needed to support mindset transformation across the business.

5. A timely alignment across the board is necessary in order to orchestrate communications and to ensure internal collaboration around technology implementation.

6. Even though technology is more available than ever in the past, it is up to the people working internally and externally, at various parts of the value chain, to explore new technological enablement opportunities and to utilize intelligent solutions for service development and to create and sustain agile operations.

The collaborative technology implemented to support and enhance internal and external business interactions impacted organizational agility and was conducive to innovation culture development The new technology eased the way for organizational culture integration by enhancing the opportunities for cross-divisional, cross-regional, cross-organizational and cross-cultural communications

and by bringing down organizational silos. Digital technology combined with automated processes and access to differentiated data sources lead to the creation of enhanced enterprise experience, elevated by human and technology partnerships and cultivated by visionary and strategic leadership, purposeful agility, growing mindsets and a human-centric, innovative and value-driven culture.

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