MANAGING CONTRACT AND OUTSOURCED INFORMATION TECHNOLOGY WORKERS

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ABSTRACT

As overall IT spending worldwide is expected to grow continually [1] and IT outsourcing has become more and more popular [2], the functions of a personnel manager in an IT services company, have also become highly critical when managing this atypical workforce comprising contract workers and outsourced employees. Unlike traditional industries, corporate cultures in an IT services company are unique due to its complexities of the workplace environment - the high-velocity competition, globalization and, interdependence among the rivals. These differences change the physics of management and require the personnel managers to have a distinct set of leadership skills to thrive in the IT services industry.

For organizations that want to grow and access critical skills, managing their contingent workforce has become critical. However, many might not have considered well of inclusion, diversity, fairness, and trust when constructing organizational systems around their contingent workers. Leading a team with a diverse mix of people from both traditional and contingent workforce has become very challenging for frontline managers as each worker types are accessed and motivated differently.

2   Introduction

"Tech giant Microsoft, for example, has two-thirds as many contractors as employees" [3].

As IT outsourcing has become the new normal in the IT industry, the derived organizational structures and, workforce comprising in-house staff, contractor workers and outsourced employees, could lead the already complex situation problematic. "If you think that managing a technology worker is just like managing anyone else, then you have obviously never done it. Those who have managed people with strong technical skills know that they provide a unique challenge to even the most talented managers" [4].

In 2018, the global market for outsourced services was put at 85.6 billion U.S. dollars as depicted in Figure 1. Approximately two-thirds of that market, the equivalent of about 62 billion U.S. dollars, was devoted to information technology outsourcing.
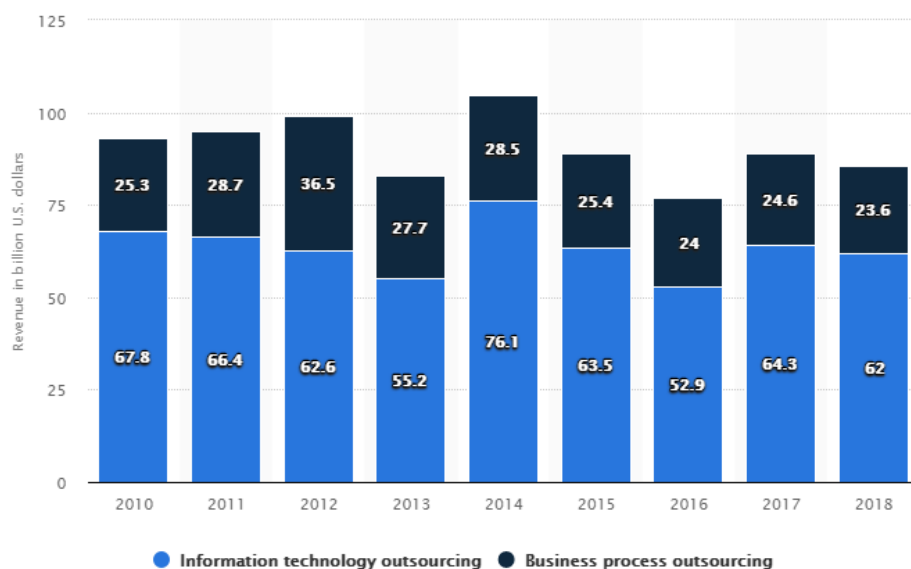

Figure 1. Adapted from "Global outsourcing industry revenue from 2010 to 2018, by service type," January 2019, Statista. Retrieved April 1, 2019, from https://www.statista.com/statistics/189800/global-outsourcing-industry-revenue-by-service-type/. Copyright 2019 by Statista.

The world is seeing rapid growth in the contingent workforce. The Deloitte Insights' 2018 Global Human Capital Trends report indicated 37 percent of survey respondents expected to grow to their contingent workforce [5]. This year, the 2019 report has revealed that IT continues to be the functional area with the highest utilization of contingent labor as reported by 33 percent of respondents [6]. But despite this anticipated growth, only 16 percent of respondents in 2018 claimed that they already had an established set of policies and practices to manage this workforce ecosystem [5]. This percent rose to 28% in 2019 [6].

To gain an understanding of collaborative work environments, we will first look at the organizational structures and service delivery models commonly implemented by major global IT services companies. Second, we will identify the workforce strategies widely used in the IT industry and, discuss how non-salaried/non-traditional workers are appealed and engaged in this new workforce ecosystem. Third, we will discover the common personal attributes shared by many IT specialist individuals which could have a significant impact on the culture of technical communication. In conclusion, these would reveal interesting insights in general personnel management best practices for the IT services industry.

3   Organizational Structures & Service Delivery Models

An organizational structure defines the hierarchy, team development and consumer's role in how a business operates. SDM *(Service Delivery Model)* is defined as how an organization can provide value to end users at a given point in time for a given service. As shown in Figure 2, a SDM is the bridge between strategy and operations. Organizational strategy helps an organization to define and to build its organizational structure which is used to help modeling business processes.

Figure 2. Relationships of Organizational Structure & Service Delivery Model.

3.1 Organizational Structures

Every organization has a structure which defines the hierarchy, the distribution of roles or the responsibilities within the organization. Depending on the market conditions, competition, industry, and history of the company, different organizational structures can be adopted by companies at different times.

There are several factors to determine the type of organizational structure that a company uses, such as revenues, number of employees, diversity of products, types of customers and geographical spread.

3.1.1   Common Organization Structures

There are three types of organizational structures commonly adopted by corporate companies:

I.   Functional

A functional structure divides the organization based on specialty and individuals are dedicated to a single function. All employees follow a chain of command. Their roles and their expectations from management are clearly defined, which limit confusion. As every department would have its own rules and regulations, employees are hierarchically organized and disciplined. However, facilitating strong communication between different departments will be challenging.

II.   Disvisional

The divisional structure refers to organizations that structure leadership according to different products, services, or geographic locations. This allows each division of an organization to be accounted for in isolation. Successes and failures can easily be seen amongst departments. The key advantage of having a divisional structure is that, when everyone in it is working towards one single goal, the success of their division, the motivation is high and communication between different teams is more efficient as everyone knows what the other persons need from them. A divisional structure has its own deficiencies as well and unable to get the most of economies of scale would be the obvious one. The lack of communications amongst divisions might hamper the organization in the form of extra taxes, fines and lack of finance available. The more severe and likely encounter in the corporate world is when competition among divisions becomes unhealthy and division heads start holding grudges against each other. Employees often forget they are part of a much larger organization and might want other divisions to perform badly in order to get their rewards.

III.   Matrix

The matrix structure is complex but pulls advantages from both Functional and Divisional structures. Under this structure, employees have multiple managers to report to. Not only do they report to a divisional manager, but they also typically have project managers for specific projects.

While matrix structures come with a lot of flexibility and balanced decision-making, this model is also prone to confusion and complications when employees are asked to fulfill conflicting responsibilities.

3.1.2   Matrix Organizations

Global IT services and outsourcing companies tend to adopt using a matrix structure to incorporate global and local businesses within a matrix of business, functional, and geographic structures. Inevitably, organizing a global company will require to adopt a matrix structure [7] which is generally considered the toughest organizational form to work in. Technical team members will always report to their actual managers (Functional Manager) for departmental and operational work. When technical team members are assigned to a project, they will be reporting to their project manager as well.
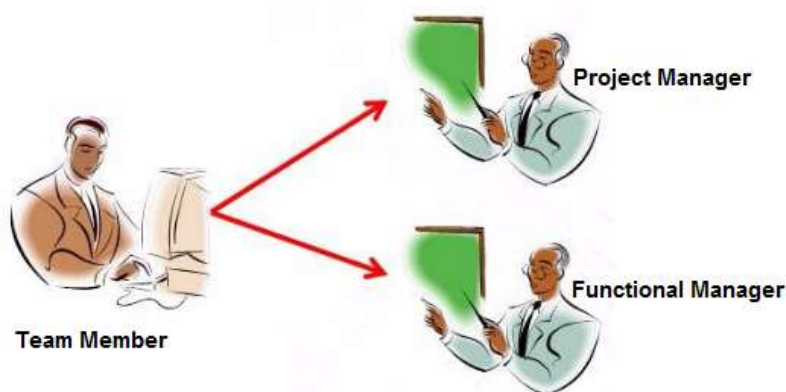
Figure 3. Typical reporting managers in a Matrix Organization.

The matrix structure allows resources to be used efficiently since experts and equipment can be shared across projects. As products and projects are formally coordinated across functional departments, information flows both across and up through the organization, which helps speeding up decision process and delivery.

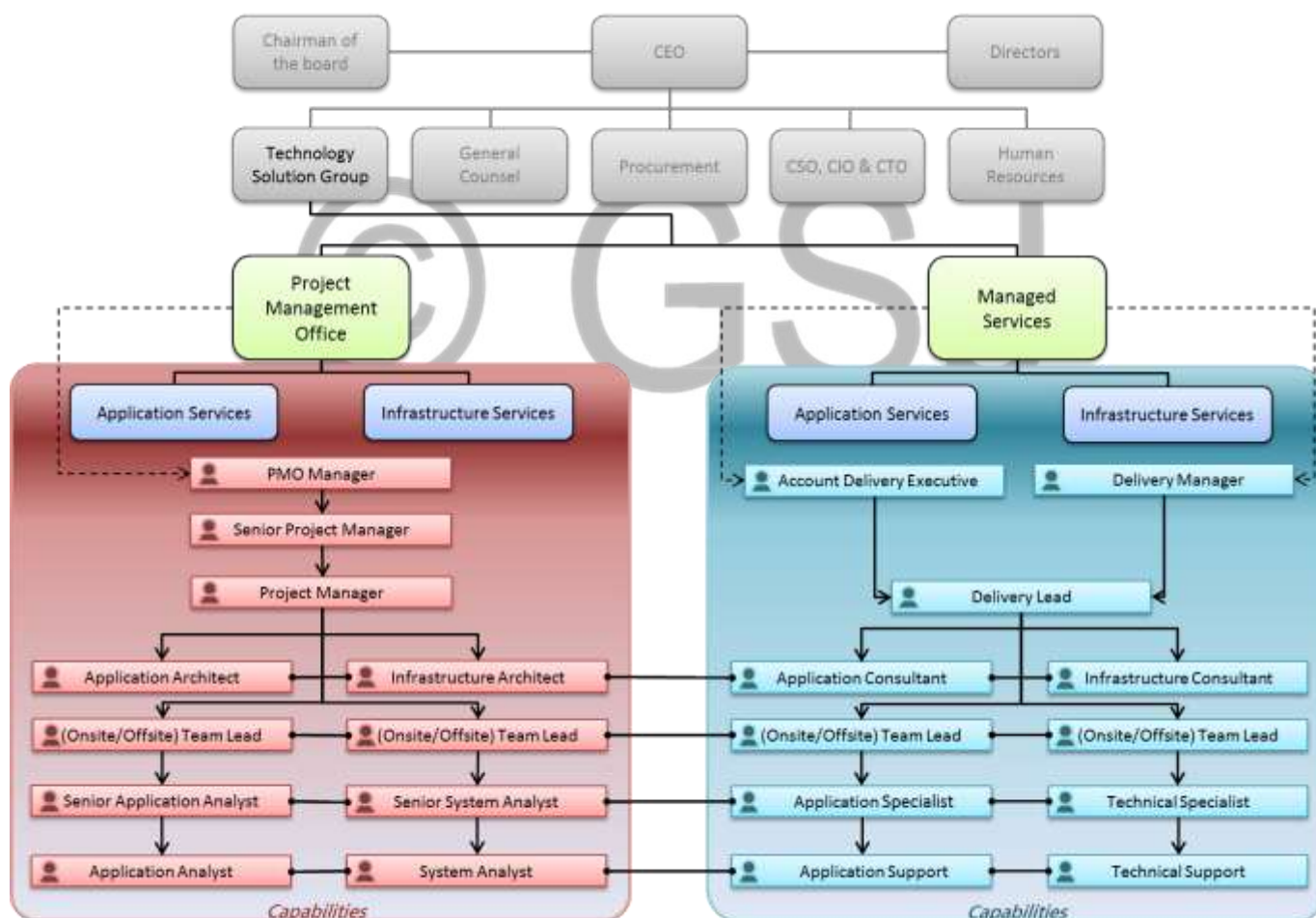Figure 4 below illustrates how a matrix structure implemented in a typical organization of IT services provider.

Figure 4. Typical Organizational Structure of a Global IT Services Company.

The structure diagram above depicts the relationships, lines of authority and ways of communicating, among technical teams, middle and lower levels of management. This matrix structure bonds the technical professionals of two different capability groups by technical domains and sub-divisions.

Broderick & Co. conducted research in professional services management, including 200+ executive interviews with leaders and innovators in organizations of all sizes and types, indicates that there is no perfect organizational structure [8]. With no exceptions,

there are advantages but also drawbacks if this matrix structure is not implemented properly.

3.2 Service Delivery Models

A well-designed IT Service Delivery Model is critical to achieving success in IT management and operations. In general, there are three types of service delivery models commonly adopted in the information technology services sector – Onsite, Offsite, and Off-shore.

3.2.1 Overview of Traditional Service Delivery Models

I. Onsite Delivery Model

From the initial consultation to the completion of the project, the consultants are all located on the client's site(s). The ADM *(Account Delivery Executive)* or the PM *(Project Manager)* may appear onsite from time to time on need basis. This model allows representatives to have continuous face-to-face interactions with the client and in return, they can gain a clear understanding of the client's requirements and policies. From the perspectives of project management, miscommunication or misperceptions of expectations are minimized as the PM would have more control in overall when compared to a distributed team. For the clients, time-to-market involved in this model is less. However, the client will have to accommodate the consultants on site and labor rates are costly in general.

II. Offsite/Onshore/Nearshore Delivery Model

This is an ideal delivery model when the client is not able to expand its facilities to accommodate the service provider's delivery team. The team will only have face-to-face interactions with the client on a regular basis and the frequency will depend on the type of delivery model chosen as described in Figure 5 below:

Figure 5. Impact of the distance between the client and the delivery team of Service Provider.

To a certain extent, this delivery will create communication gaps. Although there are inexpensive internet collaboration tools to mitigate the impact, most still value face-to-face interactions to build relationships and to share ideas quickly. Especially when the client's requirements are not well defined and/or are expected to change during the course of the project, issues will be addressed on the fly.

III. Offshore Delivery Model

In this model, the client opts to outsource the entire project to a country which produces the most cost-effectiveness. The service provider's delivery team would normally be in a city/country with a significant time zone difference, a wide talent pool but labor rates are much lower than client's country and have cultural advantages (language, know-well in IT governance of many organizations in client's country, etc.)

Initially, there would be face-to-face interactions between the client and the service provider's pre-sales team. When the processes of gathering requirements and expectations are completed, the service provider's delivery team will begin the development work and will have no face-to-face interactions with the client. There will always be a high potential of communication gap between the team and the client.

3.2.2 Global Delivery Model

Many global IT services companies began the global delivery approach two decades ago when global outsourcing became a trend in the IT industry. This approach is referred to as the GDM *(Global Delivery Model)*, which gives the flexible option of having resources onshore and offshore. This model benefits both the employer and clients as resources can come from various time zones to provide around-the-clock availabilities, cost reduction by outsourcing high salaried jobs to foreign countries with less expensive labor costs, etc.

Figure 6 below illustrates how project work can be distributed among three different work sites and how GDM delivers services to
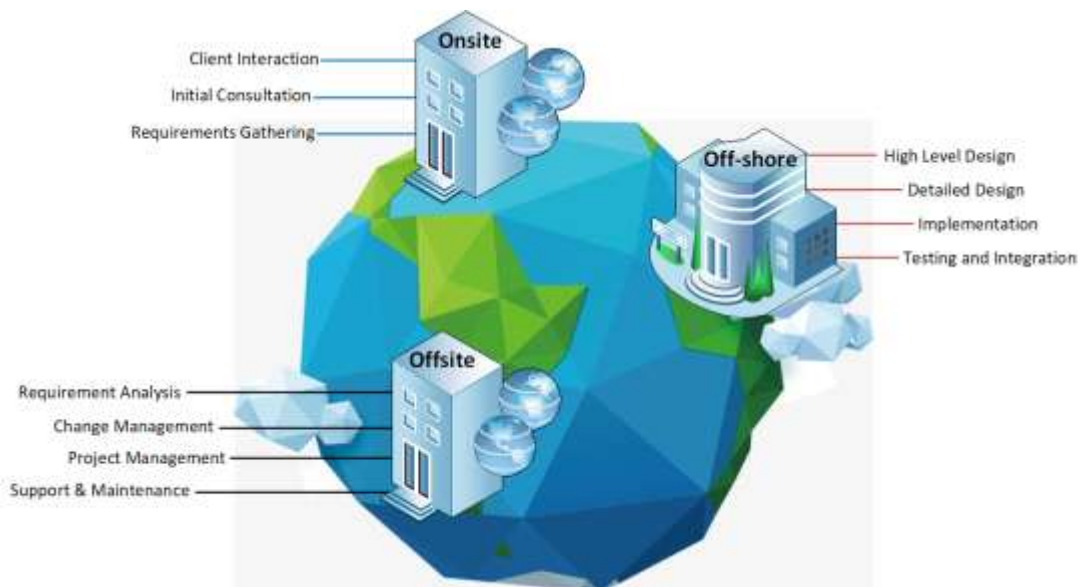
the client:

Figure 6. Adapted from "Challenges and Solutions on Global Delivery Models," December 27, 2017, Intraway. Retrieved April 1, 2019, from https://workwiththebest.intraway.com/blog-post/Global-Delivery-Models. Copyright 2019 by Intraway.

4   Workforce Composition

Today's workforce has become a dynamic ecosystem. The employment landscape is being reshaped continually by structural change, driven largely by technology and globalization. New business models, technological and demographic changes, have significant implications for organizations worldwide.

There are three basic types of workforce with legal formal status:

- *Employees:* Workers are employed directly by the company for which work is performed.

- *Contingent Workers:* Workers are provided by a staffing firm to the company for which work is performed and are employees of the staffing firm.

- *Contractors:* Self-employed workers registered as a limited liability company.

"TOTAL WORKFORCE INDEX" [9] describes *Total Workforce* refers to the combination of *Contingent Workforce* and *Permanent Workforce* in today's business world.

According to a research conducted by SIA in 2018, there were 48 million workers in the United States in 2017 in which, 31% of this *total workforce* was represented by contingent workers and this composition alone generated $864 billion in US revenue [10]. In the past few decades, it has been appealing to hire contingent workers in the IT industry. In general, IT can lower the costs of transactions and searches, which leads to more market-based interactions and temporary contracting [11]. Considering the dynamic nature of the IT industry, staffing flexibility and quickly acquiring top talents are crucial to allow service providers put together a workforce on a 'need basis', and, to accomplish one-time projects or fill a temporary or specific need within budget. Perhaps unsurprisingly, IT remains the biggest user of contingent labor.

5   Common Personality Traits of IT Professionals

Information technology projects in global enterprises are all about working as a team. There are many factors that could influence the team's accomplishments; the personality of the individual team members is undoubtedly a critical one. A research handbook published in 2009 indicated eCareerfit.com conducted a study on common personality traits of IT professionals. The sample data was comprised of a total of 9,011 IT professionals employed in various computing disciplines and industries in the U.S. The participants were measured based on 13 different dimensions. Mean scores of 10 out of 13 were found to be either similar or higher than the norm of 200,000 individuals from all other occupations. The 3 dimensions on which IT professionals have lower scores than the norm are: *Conscientiousness*, *Image Management*, and *Visionary Style* [12].

- *Conscientiousness:* individuals below norm may be interpreted as those who dislike structure and schedules, and a tendency to procrastinate important tasks. It should not be surprising that IT professionals are often viewed as less conscientious given the generally unstructured nature of IT work and the freedom and discretion IT professions have in how they solve problems and perform their work.

- *Image Management:* The predilection for poor image management of IT professionals indicates a lack of concern for projecting a smooth, polished self-presentation in interpersonal settings. Those who care about their appearances would easily attract followers.

- *Visionary Style:* Studies have shown that IT professionals are generally introverted, preferring to work alone. This personality trait makes them less effective in communicating and motivating others [13]. Often, though certainly not always, workers with strong technical skills have weaker people skills.

6   Challenges of Personnel Management

Elsevier published an article in the year 2010 which a survey was conducted with 1,585 respondents from various functional departments, representing a total of 301 organizations in service, manufacturing and agricultural sectors. The study findings provided empirical evidence that organizational culture, strategy, and structure exert a significant impact on organizational effectiveness [14]. With the growing presence of contingent workers, the challenges are great for IT supervisory managers in matrix organizations, to manage and lead a globally distributed workforce comprising contingent workers, with cultural and regional differences.

6.1 Management Challenges in Matrix Organizations Adopted a GDM

While there are certainly plenty of positive aspects from a matrix management approach and a GDM, it is also important to consider the drawbacks and pitfalls of such a structure and a model. There are not many existing studies to examine how those adverse effects impact the contingent workforce differently than the permanent workforce; we will select the common matrix management challenges interrelating to those challenges of GDM identified by IBM experts. In Table 1 below, we will attempt to ascertain how contingent workers are impacted from a supervisory manager's perspectives, as it is a common practice in the IT industry to handle contingent workers differently because information security experts view that this distinct group of technology workers does not form the same level of loyalty as other permanent staff [15].

Table 1. The Impact of Interrelated Challenges of Matrix Management and Global Delivery Model on Contingent Workforce

Matrix Management Challenges	Challenges of GDM	Impacts on Contingent Workforce
• Cross Checking Information — All managers must ensure that they have touched base with each other for any important decisions in their areas of responsibility.	• Cultural issues, such as language barriers and differences in work customs or communication styles, can cause delays and affect working relationships.	Organization leaders, sometimes even the contingent workers themselves, do subconsciously with subtle status differentiators. This will add on top of the cultural differences of offshore contingent workers which will profoundly affect the lead time of decision making and working relationships.
• The Slow Reaction — The many different people that have to be consulted, keeps response at a slower pace.	• Coordinating work across multiple sites and time zones is more time-consuming and costly than for a collocated project.	
• Complexity — The superimposition of a functional organization in a project organization is the creation of a matrix organization. This adds all the complexity of both organizations and adds even more.	• Visibility into and control of the development activities at all sites can be challenging, especially when collaborating with other companies or with teams in different time zones.	Communication issues often arise between the contingent and permanent workforces as organizations tend to prohibit outsiders to access IT resources like communication and collaboration tools. Contingent workers are easily missed out with important information and simply not aligned with the teams.
• Complex Information Flow — This is an issue because of the number of employees and organizational units involved.	• Communication issues can lead to misunderstandings, omissions, errors, and rework.	
	• Misunderstood processes or mismatched processes between teams can lead to mistakes in work transfer, increased rework, and decreased productivity. By some estimates, productivity in a GDD project can drop up to 50 percent, with rework two to five times greater than for a collocated project.	

• Management Goals — There is a natural effort in offsetting the objectives and goals of functional and project management. Maintenance of the balance between the goals of functional and project management must be assured by management.	• Organizations may not share the same objectives, especially when reporting through different management chains or different companies.	Although contingent/contract workers generally adapts to report progress updates to multiple managers, this would still be an issue since they are often unaware of the employer's organizational goals and strategies. It maybe unintentionally but they are generally not invited in social events, like a townhall or even during engagement. A more negative perception is that because of the employment nature, contingent workers are more emotionally affiliated to their host organizations - staff agencies [16].

6.2 Impact of Organizational Culture on Contingent Workers Performance

There have been many existing studies on the relationship between organizational culture and organizational effectiveness. Organization leaders are keen to know the relationship as "research shows that organizations cultivate a positive culture around a set of shared values have an advantage over competitors: Workers who perceive their very human need for meaning and purpose as being met at work exhibit higher levels of performance" [17]. John Rampton, a VIP contributor of Entrepreneur Media, stated contingent workers are often treated differently which discourages a collaborative and productive work environment [18]. While organizational culture can have a powerful on individual performances, how corporate values are disseminated to everyone including the contingent workforce has brought a new and unique set of challenges to the frontline managers. Below are a few examples:

- *Cultural fit:* If your contingent workers aren't sufficiently integrated into the workplace culture, their self or workplace-induced isolation may contribute to a less-than-ideal outcome. It can be difficult to find a contingent worker who can not only perform the required job but who can also adapt quickly to an organization's corporate culture. Companies are also often skeptical of sharing insider information with these non-permanent workers.

- *Transparency:* Contingent IT workers are masters of their own domain and can have less awareness or understanding of the macro and micro business goals of the employer. There is a risk they are no on the same page as everyone else, and so may be less productive, less valuable (in reality or perception) and less attuned to the real needs of the business.

- *Extended value:* Permanent staff works for salary, benefits and job satisfaction, among other things. A contingent worker is very similar but there are additional goals. Many value the opportunity to advance in their careers and tackle challenging work. If they don't get the satisfaction here, they would rather hop over to another company. After all, the appeal of becoming a contingent worker is often the ease of choosing who to work for.

- *Education:* It is important to make sure when new contingent workers start, they know their roles, why they have been engaged, what they're there to do, and what the broader team and business can expect from these workers. Otherwise, this can be a real downer for them.

- *Sense of affiliation:* Research shows that many contingent IT workers do not feel a stronger sense of affiliation with the host organization. Most of them have developed strong relationships and a sense of belonging with their employer, the staffing firms. Not surprisingly, they know that their employer will be the one who can help them to move to the next project. The study confirmed that the host organization controls is a critical factor in driving the motivation and performance levels of the contingent workforce [16]. Hence, it is important for the frontline managers to maintain a good relationship with this group of individuals as well as the staffing firms.

7   Conclusion

In an uncertain economy, a contingent workforce allows for greater flexibility and increased costs. This surge has changed the nature and impact of contingent work. These workers are no longer utilized only in low-level positions and on a short-term basis. Many business owners are now hiring specialized contingent workers with much-needed skills as key members of their organizations. Thus, managing them efficiently has become more important to companies' overall business goals than ever before.

A Manpower study has identified two most important *engagement drivers* affecting motivation and performance of the total workforce: "Clarity of expectations" and "Being treated with respect" [16]. Global organizations like Motorola, Oracle, and Deloitte have actively designed a special contingent workforce management model emphasizing the best "culture fit" of the contingent teams, to

meet their business demands [19]. Global IT services companies have always been reliant on a sheer size of contingent workforce. It is important to have policies and guidelines to guide managers assist organizations to improve clarity in expectations between the managers and contingent technology workers. Expectations need to be managed, as does the mix of workers in different types of employment contracts. The frontline managers should play an active role in creating environments in which flexible strategies are created and communicated to the entire workforce including the contingent teams, as employers compete to attract, retain and engage employees, strategies specific to contingent technology workers should assist them in becoming employers of choice [20].

The growth of new workforce models is redefining the employer-worker relationship, and many organizations have the opportunity to draw upon today's variegated labor market. HR and business leaders should proactively form new leadership alliances—especially between HR and procurement—to develop integrated workforce strategies and programs that can help an organization take advantage of the breadth of workforce options available today [21].

Acknowledgment

References

[1] Gartner, "Gartner Says Global IT Spending to Reach $3.8 Trillion in 2019," available at https://www.gartner.com/en/newsroom/press-releases/2019-01-28-gartner-says-global-it-spending-to-reach--3-8-trillio, 2019.

[2] V. Bhalodia, "Top IT Outsourcing Trends for 2019," 2019. [Online]. Available: https://www.business.com/articles/software-it-outsourcing-trends.

[3] J. Wingard, "The Agile Talent Wave: The Contingent Workforce Is Taking Over," Forbes, 27 February 2019. [Online]. Available: https://www.forbes.com/sites/jasonwingard/2019/02/27/the-agile-talent-wave-the-contingent-workforce-is-taking-over/#66be95c93725.

[4] J. Rapoza, "The Challenge of Managing Tech Workers," eWeek, 02 January 2006. [Online]. Available: https://www.eweek.com/it-management/the-challenge-of-managing-tech-workers.

[5] D. Agarwal, J. Bersin, G. Lahiri, J. Schwartz and E. Violini, "The workforce ecosystem: Managing beyond the enterprise," *2018 Global Human Capital Trends*, March 2018. https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2018/contingent-workforce-management.html.

[6] J. Kaji, B. Hurley, N. Gangppadhyay, R. Bhat and A. Khan, "Deloitte Insights: Leading the social enterprise: Reinvent with a human focus," 2019 Deloitte Global Human Capital Trends, 2019. https://www2.deloitte.com/content/dam/insights/us/articles/5136_HC-Trends-2019/DI_HC-Trends-2019.pdf.

[7] S. Heywood and R. Katz, "https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Organization/PDFs/Structuring_your_organization_to_meet_global_aspirations.ashx," McKinsey Insights, pp. 29-34, 2012.

[8] M. Broderick, The Art of Managing Professional Services: Insights from Leaders of the World's Top Firms, Prentice Hall, p. 239, 2010.

[9] "TOTAL WORKFORCE INDEX: ABOUT THE TOTAL WORKFORCE INDEX," [Online]. Available: https://www.manpowergroupsolutions.com/twi/about .

[10] "$864 BILLION IN REVENUE GENERATED FROM US GIG WORK: SIA," SIA, 3 October 2018. [Online]. Available: https://www2.staffingindustry.com/site/Editorial/Daily-News/864-billion-in-revenue-generated-from-US-gig-work-SIA-47628.

[11] "Information Technology and the U.S. Workforce: Where Are we and Were Do We Go from Here?," National Academies of Sciences, Engineering, and Medicine, 2017. https://doi.org/10.17226/24649.

[12] Y. Dwivedi, Handbook of Research on Contemporary Theoretical Models in Information Systems, Hershey, PA: IGI Global, pp. 532-535, 2009.

[13] "Differences between "Computer" folks and the general population," Institute for Management Excellence, 31 March 2014. [Online]. Available: http://www.itstime.com/jul2003.htm .

[14] W. Zheng, B. Yang and G. N. Mclean, "Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management," *Journal of Business Research*, vol. 7, no. 63, p. 763–771, 2010. http://doi.org/10.1016/j.jbusres.2009.06.005.

[15] K. Garska, "9 Tips to Managing the Identities and Access of Contingent Users," Identity Automation, 21 January 2016. [Online]. Available: https://blog.identityautomation.com/9-tips-to-managing-the-identities-and-access-of-contingent-users.

[16] Engaging The Total Workforce, Milwaukee, WI: Manpower Inc, 2006. https://www.manpower.ch/sites/default/files/PDF/Integration_Motivation_EN_08.pdf.

[17] Deloitte Insights, "Beyond office walls and balance sheets: Culture and the alternative workforce," *Deloitte Review*, no. 21, 2017. https://www2.deloitte.com/us/en/insights/deloitte-review/issue-21/workplace-culture-and-alternative-workforce.html.

[18] J. Rampton, "5 Ways to Ensure Your Company's Contract Workers Don't Feel Left Out," Enterpreneur Asia Pacific, 9 February 2018. [Online]. Available: https://www.entrepreneur.com/article/308758.

[19] J. Saeed, "How companies are relying on contingent workforce for specialised skills," HRKatha, 29 November 2018. [Online]. Available: https://www.hrkatha.com/features/how-companies-are-relying-on-contingent-workforce-for-specialised-skills/.

[20] L. Redpath, D. Hurst and K. Devine, "Contingent Knowledge Worker Challenges," *People & Strategy*, vol. 30, no. 3, pp. 33-38, 2007.

[21] K. Fryer and M. Gothe, "Global software development and delivery: Trends and," IBM Developer Works, 15 January 2008. https://www.ibm.com/developerworks/rational/library/edge/08/jan08/fryer_gothe/fryer_gothe-pdf.pdf.