Frontline Communications/Collaboration and Teams

Business and Process Transformation

Unified Communications (UC), Unified Communications and Collaboration (UCC), and Teams solutions have transformed the user experience and the business value of the communications and collaboration process in organizations. The COVID-19 pandemic of 2020/21 has driven adoption to levels not anticipated for many years. However, while these advanced UC/T (Unified Communications/Teams) solutions have impacted many workers, for most of the workforce, they have not had a significant impact. In this white paper, two groups of workers, Knowledge Workers and Frontline Workers will be defined.

Frontline Communications is combining some form of communication capabilities into the formal business process for the Frontline Worker. While communications have been a part of the Frontline for many years (think police and fire radios, walkie-talkies, the phone, etc.), the transformation is applying the advanced UC/T solutions to the Frontline Workforce. Included in the UC/T technologies will be all ranges of available options, from audio, video, and text, including collaboration, teams, and even extending to artificial intelligence and augmented reality.

There are several factors driving the Explosion in new Frontline Worker solutions. The emergence of 5G is making bandwidth ubiquitous, enabling rich communications anywhere. Personal and purpose-specific smart devices are cost effective and everywhere. The COVID-19 pandemic has familiarized consumers and employees with how to use video and collaboration tools. Many companies are examining their supply chains post-COVID-19 to harden potential failure points and transforming the process with communications to avoid the pitfalls COVID-19 showed. Finally, the movement to cloud-based business and communications solutions makes integration and process design dramatically easier.

Defining the Frontline Worker and the Knowledge Worker

While the Frontline name may be appropriate for the class of workers we are discussing, it comes with significant baggage. During the pandemic, Frontline Workers often were seen as the health care or essential workers required to work and face illness. According to the Cambridge Dictionary, frontline is “used to describe an employee who deals directly with customers, or who is directly involved in making a product.” Unfortunately, neither of these is clear enough to define roles for the analysis of Frontline Workers.

While the Cambridge definition is close, extending it from products to the entire business process covers one clear set of workers. Workers in this group, which will be referred to as Frontline Workers, follow a formal business process. Upon examination of the Cambridge definition, this covers the whole range of roles in the workforce that follow a formal business process that defines their daily work structure.
Whether it is a written instruction, a computer, a supervisor, or just rote process, the Frontline Worker is interfacing and following a formal business process (including products) or customers. The other group of workers, titled Knowledge Workers, have a personal business process that they follow.

**Frontline Workers**

Frontline Workers are integrated to the business process as shown in Figure 1. In addition to the business process integration, some Frontline Workers are tightly integrated with Information Systems. Also, the Frontline includes human interaction, both inside and outside the organization.

The key element is the work being defined by a process versus the worker having a goal and mapping the work themselves. For example, the fast-food employee shows up at a specific time and mans a specific station for a period of work time. During that time, they do specific defined tasks to keep the process of delivering food running. The work process is firmly defined with minimal personal divergence. Similarly, a Contact Center agent takes a seat and responds to the specific interactions provided by the system.

For some Frontline Workers, the formal business process is instantiated in an information system of some type. As these “Information Workers” are more likely to already have the tools available in their current work process to enable UC/T, they are the low hanging fruit. The other worker, the Service Workers, are less likely to need the value of Frontline Communications and may require more investment to enable.

**Service Workers**

The Service Worker does not use information in the structure or process management of their job. A Service Worker has a task to do that may involve some level of data interface, but the process is defined independent of the data. For example, a UPS driver who uses a bar code reader to scan his or her packages...
is a service worker. Similarly, a room maid in a hotel who uses the phone to call into an IVR to indicate the room is ready for occupancy is a Service Worker doing non-structured data entry.

Generally, Service Workers do not deal with the data directly through an application, but rather through capture or display devices. The process flow that the Service Worker uses is not based on accessing or interacting with data to achieve the outcome.

**Information (Task) Workers**
The Information Worker uses information in the structure or “flow” of their job. The Information Worker is generally following a defined business process with a defined set of outcomes. Often the Information Workers are using applications that define the process flow and manage both the information and the time of each task step, including interaction with customers and other workers. A bank teller or a Contact Center agent are prime examples of Information Workers. Another Information Worker example is a repairman who accesses an application and is told where to go next based on some data input. Generally, Information Workers do not decide their own next steps or manage their own calendars, rather this is dictated by the business process.

**Knowledge Workers**
Knowledge Workers operate more as independent entities, managing their own time and work flows and processes. The Knowledge Worker combines information and interaction to a collaborative activity with other people. While the Knowledge Worker may work alone, they generally interact with others during either a task-based or sales-based collaboration. Examples of Knowledge Workers include executives, doctors, managers, and a large variety of specialists in their field, from accounting to development. The Knowledge Worker is characterized by managing both their own time and having a personal workflow management such as Outlook to manage calendars and information flow.

More information on worker types can be found in the [PKE Consulting White Paper Kiss Methodology](#). It includes tools for identifying Knowledge and Information Workers as well as an analysis of communication modalities for different workers and interactions.

**Relative Size of the Workforce by Worker Type**
Figure 2 also shows estimates of the relative size of each type of worker for both the U.S. and world markets. These estimates are based on available market data. With this data, it is possible to project worker types by ranges. As shown, the percentage of Knowledge and Information Workers in the U.S. is higher than the rest of the world, and there are proportionately fewer Service Workers in the U.S. This is an important point: by only considering the impact of functions of UC and other advanced functions to the Knowledge Worker community, a company may be missing most of the opportunity.
Frontline Communications Defined

Frontline Communications is fundamentally different than traditional UC for Knowledge Workers. It is different both in usage and implementation and has significantly higher potential value.

Adding Communications and Collaboration to Business Processes

Business Frontline Communications (FC) is tied directly to the Frontline Workers. As shown in Figure 3, a Frontline solution starts with the business process. Within the process, there are workers who are part of the process. With FC, communication and collaboration events happen based on the need of the business process. Communications and collaboration events are integrated into the process to improve it. Another facet of FC is the inclusion of Work Structure tools such as scheduling or a walkie-talkie function.

Finally, Team solutions and Tools can be used to manage continuity. For example, for a specific customer or support event, Teams can be used to track information and do hand-offs between team members. A Team space can be used to gather a group of people tasked with a specific business process and can be the basis of continuity for that process. The Teams capabilities can be used to create micro-business process solutions that would be difficult to create with more defined tools. This can be especially valuable for processes that are outside of major business processes and revenue/supply chains.

Frontline Communications Has Huge Potential Value

As companies evaluate the COVID-19 experience, there is a general recognition that the pandemic had a major impact on supply chains and business processes. COVID-19, a so-called Black Swan event, demonstrated the issues in many supply chains and other business processes. As shown in Figure 4, this impact is leading to a general re-examination of virtually all processes to ensure that they are hardened against a range of potential issues in the future. A key aspect of these redesigns focuses on managing potential social distancing and remote work. In these new processes, communications will be both a primary and secondary process channel.
As companies move forward, remote process communications will become a critical element. Whether as a redundancy or as a primary, it will enable the process to continue. In addition, adding FC into the process will have major productivity and process fulfillment impacts.

The value of Firstline Communications versus UC for Knowledge Workers provides a view into how valuable FC can be. In Figure 5 an example of the profit impact (as a percentage of total revenue) is analyzed. While Knowledge Worker UC is both valuable and a great tool, it is primarily a cost avoidance (travel) and a productivity tool. In this analysis, we assume a company with 25% of employees as Knowledge Workers and 50% of revenue going to total labor costs (including all burdens). If the adoption of UC by the Knowledge Workers results in a 3% productivity gain and a 2% cost savings, the total is a reduction in total labor costs of 5%. When this is applied to the 25% of the workforce and 50% labor costs, the impact would be 0.625% of additional profit as a percentage of revenue. So, if a company had 10% profit margin, it would go up to 10.625%: not an earth-shattering result.

However, when advanced communications and collaboration are applied to the Frontline workforce, the impacts are much greater, as shown in Figure 6. First, it is applied to 75% of the labor costs so the potential is larger. The FC solutions address not only productivity, but also failures in the process. For example, a company has a 10% annual churn (loss of 10% of existing customers each year). The company’s marketing/sales efforts generate 15% new customers, resulting in a net gain of 5% year-to-year. The company implements a Frontline solution that addresses 30% of the churn issues, resulting in reducing annual churn to 7%. The result is the same marketing and sales efforts generate 15% new customers, but now that is added to the 93% retained for a total of 108% of the previous year’s customers and a growth of 8%.
This customer growth should result in 3% more overall revenue. As most companies operate at a profit point that has covered all fixed expenses, the additional revenue has less costs, resulting in even higher profit. So, a 3% added revenue will result in something like 4% increased profit. If we add a 5% reduction in operating costs due to the FC solutions, the result is almost 6% of improved profitability. For the company going from 10% to 16% profitability, this would result in a doubling of the stock value in many verticals.

**Frontline Use Cases**

One important distinction between traditional UC and FC is adoption. As shown in Figure 7, the solutions elements in Knowledge Worker UC solutions are given to the workers to integrate into their personal business processes. Therefore, adoption was such a critical issue pre-COVID-19. In fact, an accountant using a UC/T solution in manufacturing or transportation or healthcare would probably use the products in the same way.

However, the use model for FC is fundamentally different. First, the UC/T elements must be defined within the formal business process. As these vary widely between market verticals, the actual usage and implementations may vary as well. The key is to analyze the process and define how it can be improved with communications. In this case, the same technology may have dramatically different usage and implementation between different verticals. The second major difference is adoption. While the UC/T technologies in the Knowledge Worker case were generally optional (until Work from Home/COVID-19), when a communications/collaboration/team event is integrating into the formal business process, usage is not an option. For the Frontline Worker, following the process will automatically adopt the technology. This is a critical difference that drives value in any ROI analysis of FC impact.
Frontline Use Case Taxonomy

Figure 8 shows a taxonomy of frontline use cases. IT begins by defining at work versus away from work. This is not in/out of the office, but rather whether the employee is formally working or not. Most Frontline Workers are in the “hourly” worker class where they are compensated based on hours worked versus a task completion. Therefore, most Frontline Workers have a clear distinction between being “at” work versus being “off” work. Clearly, the “off” work tools and use cases are dependent on the specific vertical market, labor laws, unions, and other factors, but these are tools that can integrate the employee when not in the specified work time.

The rest of the use cases are during work hours. As Frontline Communications solutions involve communications, the next factor in the taxonomy is whether the interaction is with an employee of the company (or company AI systems) or an external customer or partners. Within this model there are seven specific use cases. The figure shows both the specific UC and team tools that are applicable. More detail will be provided in a future PKE Consulting White Paper on the use cases.

Teams and Business Processes

While the application of communications and collaboration is generally easy to understand, the potential impact of teams is much less defined. In the Knowledge Worker space, Teams are used to organize team activities. It can be used the same in the FC case. Teams can be used to implement micro-business processes or to implement team-based structure and work distribution.

The Team functionality can be used in the Frontline to enable a remote self-organizing team. Enabling small teams to be self-organizing is a major focus in organizational management. Small, self-organizing teams have become virtually mandatory in software development. Peter Drucker states in his Management Challenges for the 21st Century, “Knowledge workers have to manage themselves. They have to have autonomy.” The U.S. Army has been focused on small teams for efficiency. The 1992 U.S. Army Infantry Rifle Platoon and Squad Manual specifically states, “Mission tactics requires that leaders learn how to think rather than what to think. It recognizes that the subordinate is often the only person at the point of decision who can make an informed decision. Guided by the commander’s intent, the mission, and the concept of the operation, the leader can make the right decision.” Self-organizing small teams have also demonstrated their value in manufacturing. Eighty percent of the Fortune 1000 and
81% of manufacturing companies use small teams to organize processes. [https://smallbusiness.chron.com/selfmanaged-team-18236.html](https://smallbusiness.chron.com/selfmanaged-team-18236.html).

By enabling small teams to self-organize, productivity can be improved by up to 40%, while increasing both customer and employee satisfaction. This can lead to reduced churn, increased revenue, reduced cost, and overall increased profitability.

An example of small team organization would be enabling a group of field service technicians to distribute the day’s work assignments between themselves versus having a system like ServiceNow do it entirely as a backend process. The employees can decide who among them is best to do a specific repair or to assign based on other factors. For example, if one technician wants to have a family lunch in an area, all the service calls in that area could be assigned to that technician.

Another use of teaming is to provide a micro-business process using teams. For example, the five engineers responsible for tier 3 support on a complex product can be put into a team. Then support escalations from either tier 2 support or from key customers can be placed as an alert into the team space. The entire support team will receive a notification and the expectation is they will organize to make sure someone takes the issue on. As Team products become more sophisticated, they will add a range of new capabilities to manage notifications, who takes on the task, monitoring for completion and potential escalation if things are not completed. This new capability to engineer business process with teams can be enhanced by analysis of task completion and gamification to ensure that team members do their fair share of the work.

**Frontline Architecture and Ecosystem**

The architecture for Frontline Communications is based on the elements of the overall communications platform architecture shown in Figure 9. A complete solution includes the core capabilities of the UC solution, multi-media meetings and teams. It also includes the basics of Telephony/PSTN access and the Contact Center. Another key element is the integration APIs that are provided as well as the pre-packaged integrations with business process applications.

The ecosystem in Frontline is especially important. This includes all the elements that surround the core platform. As the focus in Frontline communications is integration to the business process, these capabilities are essential to the success of the solution. Figure 10 shows how the overall ecosystem that surrounds a platform adds value to the business process transformation. The API
integrations are a critical element. They provide the interfaces to third-party cloud applications like SPA, Oracle, ServiceNow, etc., and Integration services like IFTTT, Zapier, Microsoft Flow, and Tasker. As Frontline Workers use devices that are generic, personal, or job-specific, the platform must support a range of devices. In the Frontline Worker space, Augmented Reality is rapidly becoming another device that must be included.

Finally, there are a set of tools and added value components that are different in the Frontline than for the Knowledge Worker. These tools, ranging from scheduling to task assignment and tracking, will be critical in integrating the range of business processes together with the real-time services.

**General Purpose Platform or Embedded Solution**

Organizations looking to implement Frontline Communications will have at least three options in the near term. Many existing business process applications may offer communications and collaboration directly in the application. For example, Salesforce is offering some levels of communications within the Salesforce application, a key element in the sales business process. Some organizations may decide to use a general purpose UCaaS platform like Cisco Webex, Microsoft Teams or Zoom as the Frontline Communications platform for their organizations. In fact, many existing businesses process organizations have integrated directly with these platforms. For example, Zoom and others have pre-packaged integrations with ServiceNow. Finally, some organizations with a Frontline-focused proprietary user application may decide to integrate communication directly using embedded tools.

The decision about which path to follow is not yet totally clear, but one factor is the user usage pattern. As shown in Figure 11, users who only interface to a single application in their job role will have only one User Experience (UX), regardless of whether it is done with a general platform or embedded solution. For a user who uses multiple apps or the core personal services of the general-purpose platform, having a common experience across the different applications may be important for acceptance. For most organizations and Frontline roles, this decision process is straightforward. Balancing single platforms versus intuitive use will define the right path. However, users may also be very comfortable using a range of communications interfaces. In fact, for some roles a clear distinction between communication modalities may be valuable. For some organizations this may be a benefit. For an employee who spends...
90% of their time in a Knowledge Worker role but is assigned 10% to do advanced customer interactions on-demand through a Find-an-Expert system, having a fundamentally different experience when they are acting as an expert rather than in their normal Knowledge Worker work life may be important for context.

It may be a reminder to both act in a more customer-focused way or that recording, and analytics are included in the experience when they are in the “expert” role.

As organizations analyze their business processes and the options for enhancements through Frontline Communications, considering how the users will use and relate to different experiences is an important part of the overall strategy and design.

Applying Frontline Communications
The first element in understanding how to apply Frontline Communications to your organization is identifying the number of Frontline Workers. Within the U.S. workforce, 75%, or about 116 million workers are in some form of Frontline role. While all these workers will not benefit from Frontline Communications, many can benefit as well as the business process they are implementing.

Figure 12 shows a breakdown of Frontline Workers by the two technology role definitions. In the center are four factors that are indicators that a role will not benefit from Frontline Communications. If an employee only works fixed hours at specific times and does not interact outside those hours with the company or other employees (formally), there is minimal need for outside work tools. If the employee works at a fixed
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location every day for assigned hours and only interacts with people at that location using pure physical means, there is no real way to add Frontline Communications to the work process. For Information Workers, due to the role structure, most employees can benefit from some form of Frontline Communications. Based on this, it is reasonable to assume 20-40% would not, resulting in about 70% of the Information Workers being FC target users. In the Service Worker roles, there are many more that are defined hours, location, and interaction. Whether on the manufacturing line, a hotel room attendant or similar role, there is minimal value in considering FC today. An initial estimate based on U.S. data by roles would suggest about 60% of Service Workers would not benefit from FC.

The result is that about 68M or 43% of U.S. workers could benefit from the addition of FC to their roles. Within any company the totals will vary, but overall, this is representative for the country.

Identifying Frontline Communications Opportunities

To understand the opportunities for Frontline Communications, it is necessary to analyze the business process. The business process can be analyzed for failures and exceptions. A conversation about failures and exceptions can start by discussing core business aspects. For example, the question “What is your current annual churn and why?” will lead to an analysis of churn. In many organizations that have ongoing customer relationships, each year a percentage of customers drop the business. Often this is caused by an event that changed the customer perception. By identifying these events, churn can be reduced.

For example, one of the large cable TV companies has integrated a collaboration event into the home equipment replacement process. When the field technician gets to the point where all the equipment is installed and scanned into the app (mobile device), the applications automatically connect the field technician with a back-office technician who has access to the core cloud services. The two working together eliminate 20-30% of configuration and other errors that require a revisit or take extended time to complete. The results are all the benefits of FC: time to task completion on average is reduced, resulting

Figure 13 - Applying Frontline Communications
in enhanced productivity; the employee is happier with not looking unprofessional on the job, and the customer gets an accurate replacement that works the first time. A win-win-win!

In another example, in a sales organization, any qualified prospect who does not become a customer can be considered a failure. Analyzing the reasons for failure may find that a percentage of the time the loss was due to not having the right information to the prospect at the right time. By adding “Find-an-Expert” to the process, these failures can be reduced, leading to both more sales and revenue.

Process exceptions are another potential opportunity. An exception is where something interrupts the process, for example, not having the right parts in place. By integrating the process with communications, the parties required to respond can be notified before the exception occurs, minimizing downtime and optimizing productivity.

Beyond the business process, an examination of Frontline roles for communications adoption also examines the Information Systems and Human Interactions in the role. By analyzing all elements of the role, the business process and available tools, the process and roles can be re-engineered with communications to create and sustain transformational value for the business.

**Conclusions**

The advent of Frontline Communications is a potential development that organizations cannot ignore. With the advent of business process re-engineering, especially driven by a need to prepare for future disruptive events, including Frontline Communications solutions in how to transform processes is a critical element. Organizations should develop a strategy for the FC solutions they will deploy and a process to evaluate and understand how to transform processes with communications.

The disruptions to physical interactions and supply chains that the COVID-19 pandemic created can be addressed by integrating communications into the business process, both for enhanced execution results, but also to harden the process against future black swan disruptions. Organizations should be developing an active Frontline Communications strategy and analyzing the use of Frontline Communications in all new business process investments.