CEMEX: Virtual Work Model

TRACK10: TEACHING CASE

ABSTRACT

One of the main triggers for Virtual Work (VW) in CEMEX since 2015 was its globalization strategy, based on acquisitions, and its presence in multiple regions and time zones, requiring global collaboration and virtual work. The CIO and the Business Process Center Managers were concerned about the adoption and value creation of virtual work communities at the company.

The organizational value of VW was expected to reflect lower costs, innovation and evolved business processes, but the individual value of VW was expected to reflect an improvement in the quality and balance of work-life.

CEMEX understood virtuality as the possibility for managers to collaborate globally, to keep operations continuously moving and to overcome geographic as well as cultural challenges. This required the implementation of a single common platform ruled by harmonized business processes, as well as sharing data delivered to all decision takers at the same time, which was carried out through the CEMEX Way. The main goal to achieve when deploying virtuality was to get rid of time and space barriers that managers working on national operations would have not encountered.

To achieve this goal, CEMEX defined a VW Model, a Roadmap to move from traditional working practices to a new paradigm incorporating the domains for the creation of a Virtual Work environment. The different tools needed to carry out this task were technologies, the designing of a flexible structure, and role definition of human resources, coordination and collaboration skills, trust and culture.

Keywords: Virtual Work Model, Business Case, and Value Creation: Economic-Pragmatic-and-Social Domains

CEMEX: Virtual Work Model

In March 2015, CEMEX's CIO was in a meeting at the Company's headquarters located in Monterrey, Mexico, with one of the Business Process Center Managers (BPCM). The CIO pointed out how CEMEX had to start rethinking its business practices in order to compete in a new global business environment. "We are not virtual enough," the CIO pointed out. The request was to present a global initiative, including a conceptual framework, and a roadmap, as well as developing a Business Case for the CEMEX VW Model. The BPCM, now appointed Virtual Work Leader (VWL), offered to present a Virtual Work (VW) proposal in the following two months.

For the VWL, some of the main concerns included: how to reach a common definition regarding virtual work; how to depict a roadmap to show how to evolve from the present stage to the target; how to develop a VW proof of concept; and how to measure value creation with the VWM Business Case. The VWL had a packed schedule, setting up urgent interviews over the following weeks with key stakeholders in order to transform the VW concern into a competence and presenting a formal project during the last week in May 2015 to the CIO and the top management team (TMT).

CEMEX: DIGITAL EVOLUTION.

CEMEX was a Mexican MNC and an active player in the consolidation of the Cement Industry over the last fifteen years (**See Figure 1**). Over that period of time, CEMEX built a company that was the largest cement producer and marketer in the Americas and the third largest in the world. In 2015, CEMEX was involved in major production, marketing and trading on every continent.

Figure 1. CEMEX Global Expansion in footprint and technology
Source: CEMEX (2015)

PROOF OF CONCEPT OF VIRTUAL WORK.

To start, the VWL arranged an interview agenda in order to schedule brainstorming meetings using face-to-face and virtual sessions while interviewing IT peers, key stakeholders, and external contributors, and complementing the information with different sources. The VWL named the initiative "**CEMEX's Virtual Work Model" (VWM)**, creating the VW team with people from different IT areas and getting them on board with this new venture (**See Figure 2**). The VW Model's client was the CIO, and the VW team was supported by IT professionals from three different areas: (1) Business Process Center, (2) IT Planning, and (3) Technology Development and Evolution.

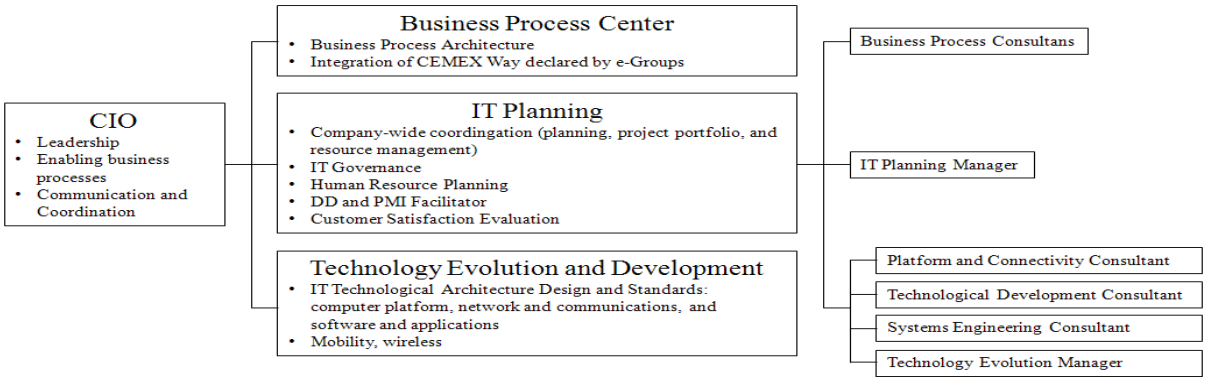


Figure 2. Participants on the Virtual Work Project: First Pilot program.
Source: CEMEX (2015)

The conversations with all the sources provided relevant input and created an open forum to reflect and to identify an institutionalized framework in order to homologize the interpretation of VW with the goal of integrating the virtual work practices.

During the interviews and meetings, the VWL covered a detailed agenda regarding CEMEX's VW current position, the characteristics of the VW, the implications of promoting and expanding VW, and the critical success factors for promoting the VW scheme for its adoption and deployment, not to mention exploring the opportunities and potential benefits that VW presented.

Virtual Work was already a practice at CEMEX since the company had begun its expansion process, but there were no common distinctions, practices or negotiated agreements or structures, nor were there operation procedures or commitments while working virtually. During the acquisition process, one of the main assets was the expert groups already using VW practices and tools for post-merger integrations, which were an important reference for support and advice. The company also enabled technologies, such as eMeetings, eRooms, eDocuments and videoconferences, as part of the VW alternatives available. According to the VWL, a common interpretation of VW and standardized VW practices was still a work in progress, preventing the delivery of the VW Business Case.

The interviews provided input in order to reach a consensus on what working globally in virtual teams implied: (1) the creation of a virtual collaboration network; (2) the development and promotion of team building, trust and cultural awareness; (3) communication skills and protocols to transmit intention, focus, urgency, emotion and availability; (4) the adoption of different work practices mixed with different management styles; and, (5) transparency in work practices so as to deliver improved productivity and to create a transparent process for the stakeholders.

For the VW team, it was clear that technology was a controlled component in the VW model, taking into consideration that CEMEX had a strong IT infrastructure in order to support its operations and business processes worldwide. The complex part of the VW initiative was: (1) to create personal bonding and collaboration for virtual work; (2) to change mindsets within the organization that saw work as an activity constrained by physical presence or face-to face interaction; (3) to initiate a change management program aligned with the initiative; and, (4) to have key enthusiastic proponents in the top management team (TMT) to make sure the initiative was supported by the corporate management and human resources areas in order to foster, promote and reward virtual work regardless of management styles.

The VWL was convinced that CEMEX Switzerland was the perfect place to design, pilot and assess the VW initiative. The Swiss office was the company's research center located in Brügg, Switzerland, in the vicinity of Bern, 120 kilometers northeast of Geneva, a central location for critical business and financial alliances, and close to strategic markets and organizations.

Brügg's office was located halfway between Asia and America and the perfect bridge for new projects given its proximity to other advanced research centers and to prestigious European universities, not to mention collaboration ties with CEMEX Switzerland, human capital and visiting researchers, not to mention resources necessary to consolidate research and development programs.

The Swiss office was opened in 2001 to promote state-of-the-art technology among CEMEX with strategic a focus on: (1) energy and environmental studies; (2) innovation, product and process development; (3) process optimization, production and operations technology; and, (4) IT processes and solutions. Given the diversity of cultures and languages at the research center, English was the official language of communication.

The Swiss Office was considered a place to explore, study, experiment, and test different ideas, technologies, gadgets, resources and work practices, such as the proof of concept for the VW Model.

To reach a decision and to achieve "buy in", the VWL had to build a VWM proof of concept and develop a business case in order to convince clients of the validity of the business initiative and be able to defend it from every conceivable argument. The sales pitch for VWM caused significant confrontation, but once an idea had overcome this stage, it moved forward and implemented as everyone was now convinced that it was the right thing to do.

CEMEX was founded by engineers and was dominated by an engineering mentality, and the Swiss Office was structured with this same mindset. The value of a proposed VWM was expected to be assessed and judged by metrics such as effectiveness, performance, optimization, and business value creation. Based on an interview with the human resource manager, the founding group, by virtue of the engineering background of its members, was intensely individualistic and pragmatic in its orientation.

VISION FOR VW: BACKGROUND AND OVERVIEW.

Virtual Work was conceptualized for the VW team at CEMEX as "working in the most effective and transparent way for stakeholders in order to achieve satisfaction in results covering four domains (family, self, work and society), while establishing a work model that simultaneously maximized productivity and effectiveness in his or her role within all these domain, ensuring a better quality of life, eliminating frontiers of space and time, and allowing a multi-process design for life". (Source: Cemex, 2015).

The VW team was appointed to structure and standardize "virtuality", consisting of basically identifying the triggers for this initiative, the challenges, the implications, the scope and the expected outcomes in the mid- and long-term.

The VW Model meant that current views on space and time frontiers, based on to the needs of required roles, needed to be reconsidered, in addition to eliminating the traditional ties these barriers had imposed on work models, in order to achieve greater effectiveness and efficiency levels in achieved results.

The message the VWL communicated during the awareness workshops was an invitation to evolve CEMEX's traditional work practices, incorporating virtuality at different levels, including virtual offices, mobile computing and remote offices. The bottom line was that Virtual Work provided the environment needed, without physical boundaries or rigid structures, to take advantage of global practices, without being constrained by Mexico's time zones for parallel working or synchronous communication, to work continuously regardless of locations and time zones, and to really collaborate and coordinate with complex networks of skills, abilities, talent, process and knowledge across CEMEX.

Based on the VWL's comments, the new generations required and demanded new work environments and practices; new positions were being taken at CEMEX by young people, part of the digital generation, bringing new and challenging ideas with technologies ingrained into their daily lives. Their multitasking ability and multi-dimensional spatial environment, incorporating upgraded technologies and didactic programs from their surroundings (school, university, family, communities, and society), were creating a completely new profile for human resources.

External contributors were invited to incorporate new insights and input from different observers and sources into the VW model: a sociologist to measure organizational impact, virtual work differences, work and family implications, and perceived values at home and at work by interviewing a sample of virtual participants and their spouses to identify virtual work differences, implications on employees at work and at home and perceived values for their work and family; two psychologists to coach employees in breaking the barriers; consultants to propose metrics and methodologies; and, researchers providing theoretical support and constructs for the VW conceptual model in order to propose and analyze hypotheses, not to mention documenting the initiative with case studies and peer articles.

Initiative's Triggers.

The main triggers for VW in CEMEX were its expansion, its globalization strategy, based on acquisitions, and its presence in multiple regions and time zones, requiring global projects and collaboration with increasingly complex human networks, market and industry dynamics demanding new working requirements with real time responses, more efficient and shorter cycles based on information sharing and collaboration, and constantly shifting projects, processes and operations in terms of complexity that required variety and diversity in expertise, cultures and critical thinking. These new work requirements accelerated the adoption of new working models based on different levels of virtuality **(See Figure 3)**.

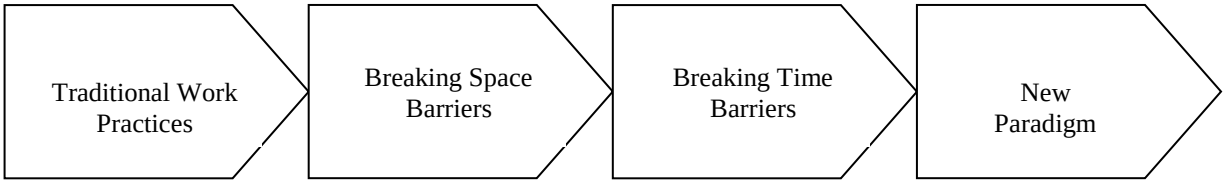
Internal Factors	External Factors
CEMEX Growth • Multiplicity of geographies and time zones • Company dynamism, speed of change • Need to coordinate and collaborate in increasingly complex human networks • Need to maintain projects and operations continuously moving	**Mindset of New Generations** • Multiprocessing .vs. Batch • Flexibility • Time and space boundaries bluring • Different work-life balance
Cost Reduction Strategies • Need to find work interpretations with a more economic, pragmatic and social value	**Competitive Environment** • Be permanently prepared for the future • Need to increase flexibility, responsiveness, adaptability, and agility
IT Evolution • A common and standard work practice • A force of change and impulse, an element of growth and speed	**IT Evolution in the World** • Became part of daily life for industries, markets, organizations and society • Opened new possibilities for life and work

Figure 3. Internal and External Factors for the Virtual Work Model
Source: CEMEX Virtual Work Business Case, 2015.

For the VW team, a critical challenge lay in effectively communicating the VW Model's characteristics and implications with a uniform message, communicated consistently by every virtual team member, to ensure that the most important aspects were shared and explained in the same way and understood clearly by every participant.

Immediate Actions.

The VW team identified various VW scenarios, from traditional to virtual work, including different levels of virtual components, in order to complement the CEMEX's Road Map for Virtual Work **(See Figure 4)**, reach a shared vision, provide guidance, and identify complementary work models, work domains, boundaries, implications and results.



• Work practices under the notion of current time and space. • Face-to-face contact for all conversations. • Lack of physical presence destroys trust, coordination and collaboration.	• Synchronous work from geographically-dispersed locations based on a specific time zone (generally Monterrey, Mexico).	• Asynchronous virtual work practices, and collaboration from disperse locations and different time zones.	• Transparency for stakeholders on results, value perceived and productivity for the employee, family, organization and environment. • New boundaries of the "boundary-less" CEMEX (work, home, community).

Figure 4. Roadmap for VW: Steps are not mutually exclusive but complementary based on effectiveness
Source: CEMEX Virtual Work Practices, 2015

The next step for the VW team was to deliver a business case for the VW Model in order to estimate the VW's potential and tangible value for the organization, its benefits for employees, and the environment needed, in terms of culture, work practices, infrastructure and technologies, for the VW to best fit into the organization. This step was not just to share a common direction, but to assess the magnitude of the effort and to identify the components needed to provide the conceptual foundation, practices and technologies and create value in work practices, as well as in the balance of employees' work and personal lives (organization, family, colleagues, community, society).

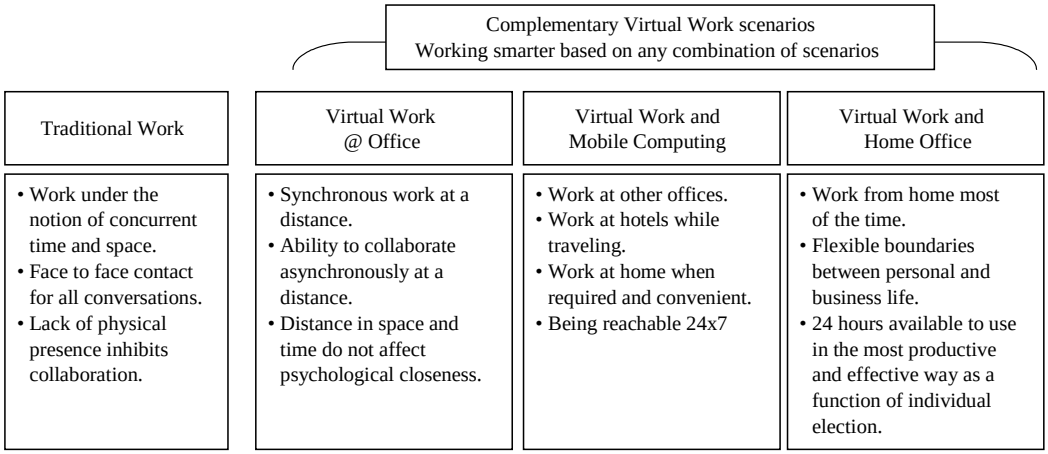


Figure 5. Complementary Virtual Work Scenarios
Source: CEMEX Virtual Work Practices, 2015

The VW team built a customized model, incorporating the experiences learned during acquisitions, global projects, best practices and from consultants, until they finally arrived at the Virtual Work Model (**See Figure 6**).

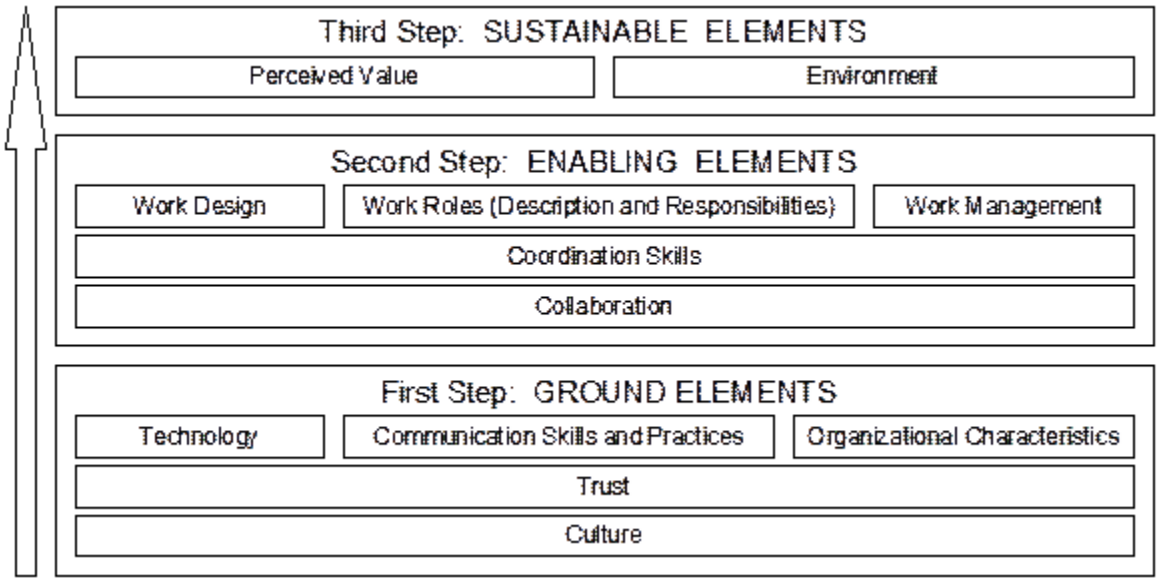


Figure 6. Virtual Work Model: Vision and Work Elements
Source: CEMEX Virtual Work Practices, 2015

As depicted in the model, CEMEX's IT team dimensioned Virtual Work based on three layers:

1. The ground and foundation elements were considered necessary but not sufficient in scope for the model to work. The first layer focused on culture, trust, organizational characteristics, communication skills and practices, and technology. It was considered the nervous system of the VW Model.
2. The enabling elements in the second layer encompassed new work practices, fostering the new mind set for work descriptions, work design and work management in order to collaborate and coordinate VW efforts.

3. The sustainable elements in the third layer provided the environment and perceived value needed to reinforce a virtuous cycle, incorporating and deploying the benefits among the entire organization, with new ways of perceiving work for the employee, for his or her family, for his or her community, and for CEMEX.

The VW proposal with objectives, scope, road map and model was presented to the CIO and TMT in May 2015 by the VWL and the VW team.

The VW project was approved and prioritized as an innovative and strategic initiative, bringing common VW practices, communication and commitment protocols, as well as work models, and complementing traditional and virtual modes on a project-needed basis. People working on the VW Model added this initiative to their BSC objectives, but they also continued to execute their job assignments. As commented by the VWL, the VW project was taken seriously and enthusiastically supported by the TMT.

VW Pilot Programs (Proof of Concept).

The VW project team was responsible for the results of the VW proof of concept.

The VW team decided to run a number of pilot programs to evaluate the potential benefits, costs and feasibility of the VW model being requested by the CIO (the sponsor of the VW initiative) and to refine it with information and new inputs and business applications.

Three Pilot programs were designed by the VW team, with closely-spaced, sequential starting points, encompassing different team member profiles and different project assignments involving virtual work practices.

The objective for the three pilot programs was to open a learning and controlled environment to reflect, identify and close any gaps, aligning work practices with the same narrative and standardized technology needed to collaborate and coordinate strategic global initiatives, evaluating benefits in the four domains mentioned above (person, work, family and society) and estimating the perceived value for CEMEX, as well as measuring the required transformation efforts **(See Figure 7**).

<table>
<tr><td colspan="3">Scope:
• Employees within CEMEX organization (IT, CIMP, CWT).
• Different geographic locations, time zones and cultures.
• At least one direct report relationship.
• Staged integration of technology elements, practices, culture, and behaviors.</td></tr>
<tr><td colspan="3">Objectives:</td></tr>
<tr><td>Assess and strengthen model with information from real applications</td><td>Gain insight for changes in management effort required</td><td>Confirm and establish value sources</td></tr>
<tr><td>• Create a live entity to test and identify new behaviors, practices and tools.
• Identify changes required in CEMEX’s culture and organizational characteristics in order to achieve the transformation.
• Build a knowledge base of successful practices in order to facilitate knowledge transfer.</td><td>• Develop a team of champions that encourages Virtual Work.
• Create a success story that works like a seed to propagate these practices.
• Identify sources of resistance to change in order to confront and resolve and identify risks in the new landscape.</td><td>• Gather real information about the impacts of results on organization and employees.
• Evaluate and quantify value sources.
• Find information on metrics to evaluate level of success of the model.</td></tr>
</table>

Figure 7. Virtual Work’s Proof of Concept Scope and Objectives
Source: CEMEX VW Practices, 2015

The VW Pilot programs operated under a defined set of rules and protocols. There were three groups working under the Virtual Work Pilot scheme: (1) the participants for the first pilot program had been part of the project since October 2010 (IT people from Mexico and Switzerland); (2) the participants for the second pilot program were part of the CIMP (CEMEX International Management Program, a customized, in-company MBA executive virtual program) who started to test the Virtual Work Model as part of the CIMP program specifically in that environment; and, (3) the participants for the third pilot program started in January 2012 and were business executives from the Swiss office.

FIRST PILOT PROGRAM:

Participants, roles and agenda:

The first pilot program started in October 2010 with 17 IT members. The main roles identified during the pilot program were: (1) the project sponsor; (2) the external contributors; (3) the facilitators; and, (4) the participants. For each role, the pilot program also served as a proof of concept.

The entire team received a VW Course on e-learning, focusing on the VW practices included in the model, the domain goals, challenges, barriers and tips to overcome them, as well as a technology kit practice course. The pilot program followed a project management agenda for the integration plan with specific roles and deliverables.

IT personnel were chosen as part of this first pilot program because of the nature of virtuality (it was an IT initiative that promoted a cultural change by taking advantage of technical tools). The decision to include only IT personnel was in order to find the best fit for the technology tools being implemented for collaboration purposes.

Facilitators' Comments and Concerns:

Some of the facilitators' concerns during the first pilot program included: (1) how to accompany team members throughout the entire pilot program, assessing their participations and advising them on problems, difficulties and updates, all with the added time constraint of working on other important projects that were already part of their normal work agenda; (2) how to ensure enthusiastic participation throughout the whole process and not just as part of the initial euphoria of new activities; (3) how to get a clear understanding of the value proposition and value sources; (4) how to scale, plan and prepare for a roll-out, as well as increasing efforts to encompass a larger group; (5) how to facilitate the understanding of the VW model and work practices; and, (6) how to provide support for change management.

Outcomes:

One instrumental step, which was a deliverable during the pilot program, was to identify an assessment tool for each goal. As part of the assessment process to evaluate the participant's contribution to the goals in the VW model, the participant had to negotiate each one of the VW metrics with his/her boss. Four goals were identified: (1) mobility (time the collaborator was working remotely with transparent productivity for the stakeholders); (2) reachability in terms of the ability to be located (number of times the person couldn't be located); (3) execution of new personal practices (number of new practices that each member adopted and executed in their personal life: exercise, family, hobbies); and, (4) participation and commitment to the VW initiative (consistent execution of the practices agreed upon during the initiative, in addition to contributions to further enrich the model).

Each goal was measured on a four-pint satisfaction scale (0 points = unsatisfactory results; 1 point = below target; 2 points = on target, and 3 points = above target). A global achievement assessment was measured on points accumulated (0 to 2 points = unsatisfactory results, 3 to 5 points = below target, 6 to 9 points = on target, and 10 to 12 points = above target).

Additional considerations were also made explicit: (1) traveling time was not to be considered as mobility; (2) the goals were reviewed on a monthly basis; and, (3) all personal practices were agreed upon at the beginning.

As the first pilot program was being conducted, the VW team received feedback and input from the participants to work on: (1) a revised version of VW practices; (2) a standardized and institutionalized protocol guide for communication for virtual teams in order to convey intention, focus, and transmit a sense of urgency and emotion; (3) a media chart with recommended tools for different communication events and situations, such as conferences, e-mail, instant messenger, mobile, video mail, voice mail, answering services; a suggested tool-situation matrix to choose the most appropriate technological media for communicating, depending on the goals to be achieved, the size of the audience, the time and location variables, cost considerations, the emotional context, time effectiveness and coordination simplicity; and, (4) an improved e-Room as an open discussion forum and part of the Plaza Community in order to share work agendas, work practice experiences, brainstorming, articles and relevant information.

SECOND PILOT PROGRAM:

Participants, roles and agenda:

The second pilot program started in February 2011, during the CIMP (CEMEX's International Management Program) at INSEAD in Fontainebleau, France, with special sponsorship from the VP of Human Resources (HR). According to the VW Team, the commitment from the HR Area was significant proof that the VW initiative was creating ownership in critical business processes within CEMEX.

The CIMP was an executive management program offered to a select group of 60 CEMEX executives worldwide, who were considered to be high potential leaders. The selection of the candidates was based on the their performance and on the country manager's recommendation according to the headcount in each region.

CIMP was a degree program designed by the Tec de Monterrey as a customized training program for CEMEX.

The group rotated during the executive program to five prestigious graduate business schools around the world (Stanford, Wharton, Carnegie Mellon, the Tec de Monterrey and INSEAD). As part of the final part of the program, the participants were asked to work on a team-based project.

The VP Human Resources, as sponsor of the VW model, invited the CIMP executives to apply the VW practices, tools and communication protocols, as well as enriching the model with their feedback as a pilot program group using the VW platform in order to complete their final global virtual project.

There were four main objectives for the second pilot program with the CIMP Executives: (1) to review and clarify the group's understanding of the CEMEX Virtual Work Model; (2) to provide reading and support materials, as well as activities and exercises based on real life and enabling experiences in order to highlight the VW phenomena and issues described in the model; (3) to generate curiosity and interest for further exploration on the topics outlined in the workshop; and, (4) to refine and test the VW tools and practices on a global scale.

The workshop focused only on the elements of the First Layer of the Model (Culture, Trust, and Communication and Technology). One major emphasis was to work on team building and on the coverage of the grounding elements of the Virtual Work Model by designing individual and group activities and exercises for role playing and personal and team reflections based on three team building components: (1) cultural awareness and common vision; (2) trust and re-negotiation of constructive future interactions; (3) communication skills and protocols for transmitting effective messages with emotion, urgency, and focus; and, (4) a technology kit to support VW tools and the virtual work environment.

In January 2011, one month before the CIMP, the executives received reading and support materials, as well as information in order to given them some background information about the virtual work model, practices, protocols and the technology kit, all of which were necessary for the VW awareness workshop.

In order to complete the CIMP, the participants were asked to implement a project. The first assignment was to send two project ideas that had to be: (1) aligned to CEMEX's five business strategies; (2) sponsored by a business area interested in the project but not requiring an additional budget; and, (3) completed within a time frame of six months.

In February, 2011, one day before the kickoff workshop, the logistics coordinator from the Tec de Monterrey and the VWL met at INSEAD in order to identify ten team leaders for the CIMP project. The leaders were selected according to their CIMP application ranking, but the submission of the two project ideas was also a requirement, otherwise they were discarded as leaders. During the first meeting with the 10 leaders, the VWL emphasized the relevance of their role in supporting the programs and submission of the CIMP projects, as well as being the voice and intermediaries between their teams and the VW team, with the assurance that they would receive comprehensive support and assistance during the pilot program.

The teams were arranged according to the topic of each project. Ten teams were formed, each with 6 participants. All the teams were multicultural. The participants worked on these projects for six months, using the VW model to collaborate and coordinate team efforts in order to complete the project.

Participants' Comments and Concerns:

Some of the concerns expressed by the participants were: (1) to have a common understanding of the IT role in human interaction and business orientation; (2) to incorporate change management programs before implementing virtual work practices; (3) to work on virtual projects in parallel with other objectives with different management styles (by control or by objectives); (4) to foster trust for effective virtual work practices; (5) to provide tips for effective communication between synchronous or asynchronous meetings in order to accomplish goals and objectives; (6) to reevaluate the fact that the CIMP was demanding additional time to everyday activities; (7) to have the TMT's sponsorship to enable the deployment of the VW model; (8) to balance family and work; (9) to have the necessary technology infrastructure for virtual work, training, support and a common platform; and, (10) to receive guidance during the project.

THIRD PILOT PROGRAM:

Participants, roles and agenda:

The third pilot program started in January 2012 with 5 members from the Swiss office and the goal of refining the VWM in the current business environment. The participants were 2 members from Human Resources, 1 from IT Business Solutions, 1 administrative assistant, and 1 from IT Business Process Center. The VWL facilitated the workshop. The group received access to the revised VW model, work practices, communication protocols, and the VW community.

By the time the third pilot program started, almost all of the Swiss IT team was part of the new virtual work practices, some of the requirements for which demanded that all participants work at home one day a week as part of the pilot program for the model, basically in order to observe productivity, client satisfaction, and global project interactions regardless of location, time and work space. Changing the work practices of the IT team was something difficult to align with the traditional work practices in place at the Swiss office, so the awareness and input from the HR area, now part of the third pilot program, were both crucial at this point in providing transparency for the rest of the people at the Swiss office, who were not part of the pilot program and, as such, unaware of the implementation of the VW model.

The participants scheduled a weekly meeting over a period of three months to cover the workshop and complete the pilot program.

In the first session, participants were asked to write down a definition of "urgency". The answers were as diverse as the number of participants in the session. The VWL emphasized the fact that even though there was no correct or incorrect answer, it was important to negotiate common distinctions and standards, mutual commitments, and the number of misinterpretations, misalignments and issues of mistrust in order to avoid and overcome barriers to communicating and building trust in order to foster future collaboration.

Participants' Comments and Concerns:

The participants from human resources were concerned with: (1) the legal framework and aspects regarding labor contracts, holidays and vacations, and rules and policies regarding working hours, with questions about how to consider working at home (Out of the office? How to reconsider holidays?); (2) the identification of levels of virtuality for different job descriptions; (3) the creation of transparency for the members of the office not involved in the pilot programs; and, (4) the deployment or extension of the VW model with different management styles, control schemes, and physical presence interaction requirements?

Based on the VWL's opinion, the rest of the participants from IT were enthusiastic and considered the VW model as an option to help drive the service and coordination of IT Areas (Technology Evolution, Business Process Center, and Business Solutions) for business clients. According to one of the participants in this pilot program (an IT Business Solutions Manager), the VW initiative was an opportunity to make explicit commitments and to bring order to misalignments and fragmented efforts regarding virtual work practices. For him, virtuality was not just working at home, but rather a set of activities and conditions to be implemented as soon as people started working in remote environments, using IT tools, as a means of offering virtual presence and dialog with business clients during work assignments. VW complemented their jobs and distance did not affect stakeholders.

The VW initiative provided the space needed to standardize fluid and efficient conversations, working in the best way possible with common practices and sharing the same communication protocol and the same commitment and operating rules. The participants' concerns focused on the VW metrics: whose role was it to measure VW? How had VW been measured? How important was it for VW to have immediate feedback and not waiting until the performance evaluation in order to make adjustments?

Facilitator' Comments and Concerns:

The VWL's concerns during this third pilot program were: (1) the VW model was not designed to be a company-wide initiative and required a long cultural evolution process; (2) there was an overdependence on technological devices, but VW did not imply being online all the time; (3) it was important to avoid the feeling of isolation and disconnection which were risks to adopting the VWM; (4) VW had to provide communication protocols in order to convey emotional content in the messages being communicated to replicate "casual" conversations, but at the same time make sure that focus, emotion, and urgency were transmitted; (5) to use the golden rules of VW during workshops to assure punctuality, ensure cellphones are on silent and avoid distractions when using laptops during the workshop in order to promote active participation; (6) to integrate the traditional and virtual worlds to work more efficiently; (7) to deliver service and productivity for the different stakeholders regardless of distance; (8) to balance the central gravity of the headquarters in Monterrey and governance behavior, ensuring everybody working virtually was visible; and (9) to keep business processes with a revolving central governance which was aligned with each region's location and time zones (follow-the-sun).

Outcomes:

To avoid any misalignments and misinterpretations by non-virtual model adopters, the VW team defined and institutionalized general rules, even though this was a step backwards in terms of trust, but it was a trade-off in order to provide complete transparency with traditional work practices, to secure virtual workers' visibility, and explicitly communicate to the rest of the organization that VW incorporated a level of order and discipline. Some of the explicit rules were: (1) rules of coordination rules a publicly-accessible schedule with time slots for virtual workers, with no more than 2 people from the same unit at a remote location at any given time; (2) availability and reachability with a work schedule from remote location with the same office hours; (3) use of a connection with messenger and the legend @remoteoffice while working remotely; and, (4) use of a soft-phone (IP Cisco technology) by the virtual worker (home phones were not recommended), with his or her cellphone as the secondary alternative .

The VW team also defined rules to alternate the VW work schedule with the traditional work schedule: (1) each virtual worker required an approved coordinated work proposal from his or her boss including a detailed plan in which the new personal practices were incorporated; (2) work done at night or at the weekend was considered for PPA (performance evaluation); and, (3) the virtual worker had to ensure no negative impact on service quality for customers and stakeholders, as well as punctuality and impeccability in commitment management.

A communication campaign was developed and presented to the CIO and TMT, explaining the importance of following explicit rules for VW practices to ensure transparency, share the same narrative, and avoid misinterpretations from non-virtual model adopters.

CHALLENGES

According to the VWL, the foundation for virtual work implied the acceptance of cultural diversity in order to build and foster trust, to communicate effectively, to design the organizational structures and characteristics to promote these new work practices, and to offer the technology infrastructure needed to connect everyone, anywhere. This challenge required ownership and tangible perceived benefits and value creation for the employee, the organization and the community.

Effective communication, according to CEMEX's VW team, was based on conversations, in which mutual understanding of promises, commitments, statements, assessments, interpretations and emotions were of critical to improve the effectiveness to coordinate actions as a capability.

Another critical factor was to find a common denominator to measure, assess and reward VW, find the path to change the current state into a virtual one, and, finally, to the perceived value in the four domains: employee, family, company and society, from three different perspectives: economically (benefits, costs, risks), pragmatically (work practices) and socially (identity, reputation, community, society, image).

In summary, CEMEX's VW initiative represented an organizational challenge for the VW team in terms of how to respond to new and specific implications, risks and work opportunities: (1) how to institutionalize VW practices, with standard rules of operation and communication protocols; (2) how to close the gaps between technology and organizational evolution; (3) how to coordinate the actions for the preparation of requests, concerns and goals, negotiation on the terms of mutual agreements, execution of commitment in action, and evaluation of deliverables to ensure mutual satisfaction; (3) how to assure collaboration with team members working virtually, emotionally and intellectually with a focus on a common goal, while being motivated for the joint success of their efforts and working under a sense of accountability, interdependence, complementarity, and common goals and purpose for the duration of the assignment; (4) how to control the activities, resources, and priorities to make sure the virtual work was assigned according to competencies and carried out in order to effectively fulfill the objectives, with the leadership, management style and type of control each team member exercised over results, responsibilities and methods to achieve the team's objectives.

OUTCOMES

The organizational value of VW was expected to reflect lower costs, innovation and evolved business processes, but the individual value of VW was expected to reflect an improvement in the quality and balance of work-life.

Three sources of value creation were identified: (1) the economic value (benefits, costs, and risks), considering productivity issues, stakeholder relationship management, human resource availability, infrastructure optimization and resource efficiency; (2) the pragmatic value of designing CEMEX's core competences, resource allocation, explicit work practices, improved time management, expanded skills and practices; and, (3) the social value, considering organizational image and sense of ownership, being perceived as an innovative company with advanced work schemes, an employer of choice, reputation as a company at the cutting edge of technology and innovation, and balancing quality of life.

Based on the VWL analysis, the VW Model was based on trust, so the management styles based on control, requiring physical presence at all times, with desk and office confinement, were a great barrier to global adoption.

There was the misinterpretation of VW as working at home all the time, and not requiring any adherence to office hours. Testing the VW Model and its work practices required some degree of mobility and flexibility, while learning to identify the best spaces and times to conduct specific activities. The location of the virtual team members was set under a predefined schedule so that they were available at all times. An office schedule was still being observed.

Another important threat was the myth of seeing VW as working 24/7. VW meant exploring new work models, the consequence of evolution and global project involvement, and looking to VW as a means and an opportunity to maximize effort and time for effective job performance and family balance.

Based on the VWL's opinion, technological infrastructure was considered a strength in the company over the past decade. The VW Model did not require additional infrastructure. The technology platform available at CEMEX provided the tools necessary to accomplish the goals for this initiative.

THE INTEGRATION OF THE BUSINESS CASE

For the BPC Manager, the deadline to deliver the business case for the VWM was approaching. For the VWL, it was important to compile the lessons learned from the pilot programs and workshops to complete the presentation for the CIO and TMT. Some of the issues the BPC Manager and the VWL were planning to include were:

Communicating a clear message on the VW concept, levels of virtuality, roles and responsibilities, common practices, communication protocols and operating practices, as well as VW rules on visibility, mobility, reachability and work practice changes to the rest of the organization.

Identifying value scenarios for CEMEX with different levels of virtuality, work practices, technologies, benefits, costs and risks.

Identifying the value VW implementation generated for the organization and employees, the timeframe to incorporate VW practices effectively and the definition of the VW metrics to assess productivity, competitiveness and performance.

Given the experimental characteristics, practices, and rules being observed during the pilot programs, the initiative was intended to provide guidelines and concepts that were being tested, challenged and improved.

What were the next steps for CEMEX to take on the virtual dimension?

CEMEX: Virtual Work Model

TEACHING NOTE

SYNOPSIS

One of the main triggers for VW in CEMEX was its globalization strategy, based on acquisitions, and its presence in multiple regions and time zones, requiring global collaboration and virtual work. The CIO and the Business Process Center Managers were concerned about the opportunity for virtuality platforms at the company.

The organizational value of VW was expected to reflect lower costs, innovation and evolved business processes, but the individual value of VW was expected to reflect an improvement in the quality and balance of work-life.

CEMEX understood virtuality as the possibility for managers to collaborate globally, to keep operations continuously moving and to overcome geographic as well as cultural challenges. This required the implementation of a single common platform ruled by harmonized business processes, as well as sharing data delivered to all decision takers at the same time, which was carried out through the CEMEX Way. The main goal to achieve when deploying virtuality was to get rid of time and space barriers that managers working on national operations would have not encountered.

To achieve this goal, CEMEX defined a VW Model, a Roadmap to move from traditional working practices to a new paradigm incorporating the domains for the creation of a Virtual Work environment. The different tools needed to carry out this task were technologies, the designing of a flexible structure, and role definition of human resources, coordination and collaboration skills, trust and culture.

Keywords: Virtual Work Model, Business Case, and Value Creation: Economic-Pragmatic-and-Social Domains

TEACHING STRATEGY, COURSES AND ACADEMIC LEVEL:

This teaching note describes a teaching strategy in which the **CEMEX: Virtual Work Models** case is taught within a single 90-minute class session on Innovation and Technology Management. The case was written for use by MBA students and Executive Education participants in classes focusing on Work Innovation, Information Technologies for Business Strategy, or Management Information Systems.

MAJOR TOPICS FOR DISCUSSION AND RELATED ISSUES:

- Evaluation of the Virtual Work Model.
- Virtuality and Information Technologies to mobilize best practices and knowledge.
- Virtual Work and Business Case for Value Creation: Economic, Pragmatic and Social domains

TEACHING OBJECTIVES:

- Analyze and value the “virtuality concept” in terms of trust, culture, technology, communication, collaboration and coordination.
- Identify barriers and challenges when working in virtual environments to identify the leverage needed to balance the organizational forces.
- Identify the critical success factors when implementing a virtual work model.
- Design metrics for virtual work in order to assess the business case in terms of: economic, pragmatic and social value for the organization.
- What organizational characteristics should be in place in order to shift from traditional work environments to virtual remote offices?

SUGGESTED ASSIGNMENT QUESTIONS:

1. How did CEMEX conceptualize virtual work, virtual team, and virtual community?
2. What challenges did the VWL and the CIO face with its Virtual Work Model (VWM) regarding adoption and business value creation?
3. Build a Business Case for the company considering: economic, pragmatic and social value for the employee, for the organization and for the industry.
4. What recommendations would you make to the VWL and the CIO so as to promote and to reward virtual work, while, at the same time, securing expectations with planned results and continuous feedback?

SUGGESTED READINGS:

Crisp, C. B., & Jarvenpaa, S. L. (2013). Swift trust in global virtual teams. *Journal of Personnel Psychology*.

Kimble, C., Li, F. and Barlow. (2009). *A. Effective Virtual Teams through Communities of Practice*, http://www.managementscience.org/research/ab0009.asp.

Moser, K. S., Vartiainen, M. A., & Cramton, C. (2015, February). The Role of Context in Virtual Work. In *Academy of Management Annual Meeting Proceedings* (Vol. 2015, No. Jan, pp. 13582-13582). Academy of Management.

Nurmi, N., & Hinds, P. J. (2016). Job complexity and learning opportunities: A silver lining in the design of global virtual work. *Journal of International Business Studies*, 47(6), 631-654.

TIME PLAN

- Context, concepts, models on Virtuality and Virtual Work — 20 minutes
- Challenges and Opportunity Platforms for the VWM — 20 minutes
- VWM Business Case — 30 minutes
- Recommendations — 10 minutes
- Closing Remarks and Lessons Learned — 10 minutes

BLACKBOARD PLAN

Concepts:	Challenges / Opp Platform	Virtual Work Model	Business Case at Individual, Organizational and Industry Levels:
• Virtuality • Virtual Teams • Virtual Community	• Direction • Execution • Sustaining Value	• Ground elements • Enable elements • Sustainable elements	• Economic Value • Pragmatic Value • Social Value

ASSIGNMENT QUESTIONS AND SUGGESTED DISCUSSION

1. How did CEMEX conceptualize virtual work, virtual team, and virtual community?

   The discussion can begin by asking a student to describe the differences in groups working on a project according to: (1) Similar or diverse context in culture, geography, time-zones and function or role; (2) type of group (common or non-common history and future); (3) enabling work factors (technology, trust, work design, communication); (4) reinforcing work factors (feedback system, reward system, perceived value, balanced environment-work-family-society).

   Virtual Work

   working in the most effective and transparent way for stakeholders in order to achieve satisfaction in results covering four domains (family, self, work and society), while establishing a work model that simultaneously maximized productivity and effectiveness in his or her role within all these domain, ensuring a better quality of life, eliminating frontiers of space and time, and allowing a multi-process design for life

   Virtual work maximized expertise from a variety of people, providing the company with a more accurate picture of international customers' needs and profiting from the synergy necessary to unify varying perspectives from different cultures and different business processes. In order to become productive during virtual work, global teams must evolve to create an effective virtual work environment, and the recommendation was to start by selecting the right team leaders. Every successful global team in virtual work must include members who have cultural, personal, and technical expertise. When a project required talent, experience and global focus, virtual work and global teams were much more efficient.

   Virtual Teal

   VW Team: a workgroup of individuals that conducted most of the work being physically apart in a synchronous or asynchronous communication medium.

   A global virtual team: an example of a new form of organization, in which a temporary team was assembled on an as-needed basis for the duration of a task, and staffed by members from different locations and cultures with a common goal and shared target. In such a team, members: (1) physically remain on different continents and in different countries; (2) interact primarily through the use of computer-mediated communication technologies (electronic mail, videoconferencing, etc.); and, (3) rarely or never see each other in person.

   Although trust is important in any type of team, trust was pivotal in preventing geographical distance from leading to psychological distance in a global team. Trust was even more essential in global virtual teams. "Trust was the glue of the global workspace."

   Virtual Community

   A group of people who, having connected through a common social network and discovered a shared purpose, were willing and able to help each other through web tools or other collaborative networks. A community of practice was a community whose members all share some common skill or professional certification, but who may be applying their efforts to a variety of objectives. A community of interest was a community whose members have a variety of skills or competencies, but who share a common objective.

   Characteristics of Virtual Teams and Virtual Communities

• Sense of purpose • Social networks • Leadership	• Infrastructure • Protocols • Enterprise benefits

2. What challenges did the VWL and the CIO face with its Virtual Work Model (VWM)?

   Challenges facing the VWL and the CIO

   The discussion could be initiated by asking a student to describe the challenges faced by the VWL and the CIO at the time of the case. Collect the students' comments into three categories: Direction, Execution and Assessment

1. Establishing Direction
    - Purpose: teams need to feel a unified sense of purpose, scheduling more frequent and explicit check-ins and check-outs since there is a lack of face-to-face meetings. A VWL must be the compass that provides focus and clarity of purpose, insist on team empowerment, and continuously check on the team's dynamics and coordination activities.
    - Roles: since role ambiguity and confusion are usually related to poor performance, it is necessary for the VWL to make sure each member has a clearly defined role that is understood and accepted by all group members. This role may be appointed or emergent, but it must be explicit.
    - Culture: the prevailing culture of the organization establishes the context of which each team must be a part. Technology must be used to facilitate the virtual team being a part of the culture, but the dynamic relationship must also be recognized and dealt with.
    - Weaving as part of networking: the process of summarizing and synthesizing multiple responses in virtual teams. This means the VWL needs to tell people where they have been, where they are, and where they might want to go next.
    - To accept that all team members' perspectives and inputs are valid and valuable. Eliminate assumptions about people's intentions and about how work should be done.
    - Context to avoid misunderstandings and misinterpretations, as well as a gap between perception and reality, which further erodes trust.
2. Executing and Adapting
    - Conversation: VWL must support and encourage conversation, discourse and questioning among group members; technology cannot only be used for data exchange and storage.
    - Feedback: spend time using technology to improve the quality of communication among all of the members of the team. This is the primary way to produce frequent, timely, and helpful feedback.
    - Pace: the VWL must try to facilitate a reasonable pace at which work is done. It is likely that some people will use the shared environment at a higher rate than others. In an asynchronous environment, keeping people on board, participating, and feeling part of the team is essential.
    - Participation and Deliveries: the VWL needs to be aware of the cues and symptoms that indicate when people are engaged, executing and participating, and when they are not.
    - Flow: the manager must be aware of what is happening (or not happening) in the group. Like any group, virtual teams will be very active at some point and less active at others. The VWL must monitor this so that the team is working together effectively and efficiently.
    - Establishing and following explicit communication practices/guidelines. Striving for impeccability in commitment management. Honoring agreements and commitments in order to foster transparency and responsible behaviors.
    - The VWL should ensure that each team member has the required skills, competencies, experience and personality to effectively perform relative to each member's roles and responsibilities to the team mission and purpose.
    - Effective collaboration requires a state of mind that prioritizes the merits of ideas and skill sets at the expense of individual egos.
    - In order for collaboration to happen, team members must always keep the team's overall interests and good performance in mind, learning to give and receive constructive and proactive feedback.
    - Understand the benefits and practice networking as a dynamic process that connects people and that often results in outcomes that far exceed what you as an individual communicator could generate. Networking results in sharing ideas, views and experience.
    - Virtual Collaboration relies heavily on technology and virtual networks; therefore, enterprises must support the formation and sponsorship of communities to complement virtual team structures and provide virtual teams with the spaces they need to collaborate virtually, as well as making the devices and tools that best fit virtual collaboration available.

- Teamwork is fundamentally social. All groups with a common purpose need to be cared for and nourished. A team certainly qualifies as common work ground, but commitment is deepened when the team actually feels that it is a temporary "community" with shared purpose and responsibilities, rituals and habits, successes and challenges, and history.
- Virtual Coordination requires honing communication skills, investing time in articulating a complete, clear request, and listening to underlying concerns and preoccupations when receiving requests.
- Devoting enough time to ensure one global interpretation of the request and its conditions, as well as paying attention to disjointed working processes and misunderstandings.
- Sharing information, validating paths of action and crosschecking decisions made. This does not need to be done in a synchronous fashion.
- Striving for impeccable commitment management, changing the mindset that in order to "work together, you need to be together". Impeccable commitment management fosters trust and brings one of the phases of the coordination cycle to a successful conclusion.

3. Assessment of Business Sustaining Value. During this portion of the discussion, it is important to ensure that students have thoroughly examined the external challenges and the firm's purpose and strategy.

- Metrics on the creation of economic value: higher productivity, less relocations, less traveling and commuting, shorter work cycles, more alternate space use, less office space, infrastructure cost reductions, less paperwork, less cost in utility services
- Metrics on the creation of pragmatic value: ingrained work practices and protocols, global knowledge sharing in global virtual teams, increased knowledge documentation and mobilization
- Metrics on the creation of social value: engagement, balance of life and work, loyalty, image, reputation, social capital, inclusion
- Team work practices should recognize and accommodate differences in Human Resources policies relating to performance measurement, official working hours, and labor practice.
- To align compensation and reward systems with virtual work, compensation and reward systems The systems and methods for measuring goals, competences and skills. Steering it towards management by objectives and results; therefore, outputs become primary, and should be the basis for performance evaluations and feedback mechanisms.
- Traditional compensation systems often do not have mechanisms that value and compensate information sharing. In some organizations, information is highly guarded, used as power, or traded as if it were currency. These attitudes work against virtual teamwork and corporate intelligence.

3. Business Case Study: What benefits for the employees and potential value for the organization should be achieved as part of required transformation efforts?

Domain	Economic Value	Pragmatic Value	Social Value
Employee	• Productivity linked to BSC. • Time managed in a more efficient and proactive way. • Open possibilities for family commitments and activities. • Less commuting time. • Less traveling, traffic and pollution. • Less fuel and gasoline consumption.	• New competencies and work skills and practices. • Interactions, conversations and learning with experts and people in different countries. • Project flexibility. • Permanent dialog.	• Loyalty based on trust. • Proud member of a leading organization. • Time management improving quality of life.
Company	• Work productivity. • Shorter time cycles. • Ubiquity and productivity. • Fewer face-to-face meetings. • Greater availability. • Less office space and alternate space use. • Infrastructure cost reduction. • Reduction in long-distance calls. • Reduction in administrative workload for assistants, paperwork and transactions.	• Organizational competence. • Leverage infrastructure. • Critical path. • Infrastructure extended to partners and homes. • Fading new generation with ingrained virtual practices. • Changes to workplace atmosphere. • Orientation towards declared specific objectives in work practices.	• Innovative company with advanced work models. • A committed employee and community, and a responsible company. • Community prestige being at the cutting edge of technology and innovation. • Global virtual teams for a globalized business environment.

		• Work practices aligned to global project management. • Expansion of skills and practices with synergies. • More work practices aligned to contingencies and customized conditions. • Flexibility to change or to adapt across time and space. • Flexibility, capability and capacity to adapt to dynamic conditions. • Project flexibility. • Just-in-time decision making. • Increase in organizational response rate. • Skill/ability team configuration on an as-needed global basis. • Global knowledge sharing in global virtual teams. • Greater collaboration culture.	• Employer of choice.
Industry	• Less traveling, less traffic and less pollution. • Families rearranging and sharing spaces and family activities that were previously outsourced. • More knowledge sharing among peers, learning institutions, markets and industries	• Better communication skills, cultural interaction and more information sharing for a better and more informed society. • Mutual and complementary support from developed to emerging regions.	• Family integration. • Sharing communities of knowledge. • Awareness of cultural diversity and geographic similarities and differences. • Improving communication channels.

4. What <u>recommendations</u> would you make to the VWL and the CIO in order to promote and to reward virtual work, and at the same time securing expectations with planned results and continuous feedback?

The VW practices were a comprehensive organization-wide initiative that resulted in change in the deep-rooted structure of the company, radically altering strategy, structure, systems, processes, human resource requirements, and core values and beliefs.

<u>Promotion:</u>
- Team of champions for encouragement, profile identification.
- Team leaders with champion profiles.
- Success story deployment (Revolving Offices).
- Sources of resistance to change identified, change management requirements.

<u>Communication Strategy</u>
- Value Creation in Four Domains (Self, Family, Company, Society) in Three Perception Arenas: Economic, Pragmatic, and Social.
- Work Practice Implications for: Work Management, Work Roles, Work Design and Collaboration, time and space domains for work, rules for availability and reachability.
- Global awareness, required change management programs, aligning management styles.

<u>Implementation</u>
- IT Areas to support roll out, facilitating, coaching, and assessing results.
- Deployment initiatives: Virtual MBA Program (education plus VW Model's publication).

<u>Assessment</u>
- Productivity assessment linked to Annual Personal Assessment and BSC.
- Rewards for global virtual team participation, collaboration, results and global adoption

CLOSING REMARKS AND LESSONS LEARNED

With approximately 10 minutes left in the class, several students can be asked to summarize the advice they would give the VWL and the CIO in order to promote and reward virtual work.

How should he or she proceed in implementing the recommendations for changes in vision, work mode, virtual work design, and information infrastructure discussed during the class session? It is useful to ask them to take a position on whether the company was choosing the right model.

CEMEX would have to adopt and institutionalize a new approach to defining business value. CEMEX must ensure that the country directors are truly committed to the new strategy and must lead the organizational transformation required to adopt the VWM initiative.

- Self-managing global virtual teams.
- The boundaries between formal and informal power became less clear as inter-functional teams had discretionality and authority for operations and work.
- Dynamic incentive systems to reward individual, team, and organizational performance.
- A broad set of internal and external measures were used to monitor individual, team and organizational performance under VW practices (deliverables, time, quality, activity-based cost, customer satisfaction, and financial performance).
- Formally defined, clearly communicated, closely monitored, and consistently enforced boundary and value systems.
- Employees at all levels and across geographical and time boundaries and regions must collaborate to achieve organizational goals; trust was essential.
- Assessments on individual VW performance are based on feedback from a broad constituency including peers, business clients, customers, project managers, supervisors, and subordinates.
- Employees participate in determining performance objectives and periodical assessments to evaluate progress and completion.