Users' Perception Towards "Cloud Computing"

Bita Motamedian

Abstract— In general, "Cloud Computing" is the provision of web-based services, located on remote computers, allowing individuals and businesses to use software and hardware managed by third parties. As nowadays more organizations consider moving their applications and data from dedicated hosting infrastructure that they own and operate to share-infrastructure leased from "cloud" or "cloud computing", I clarify in this survey the popularity rate of this concept and its usage besides the reasons and concerns of using "cloud" related services among people with various positions and abilities.

Index Terms— Cloud Computing, Cloud Services, Cloud Providers, Cloud Offerings

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1 INTRODUCTION

THIS survey concerns the perception of people at various levels towards "cloud computing" concept and its usage, their main reasons for using utility computing, and their main concerns on demand infrastructure.

As organizations cope with a dynamically changing business environment, IT managers look to cloud computing as a means to maintain a flexible and scalable IT infrastructure that enables business agility. To use cloud computing utilities and services, it is vital that people accept and trust cloud computing. IT managers tend to know the level of basic knowledge about this concept by their organizations' employees and their clients or customers to whom they are providing products and services.

While the literature on "cloud computing" is extensive in its technical, structure and security sections, much work remains to be done on the users' perception and their expectations of this evolving concept that seems to be the next revolution in IT industry.

Although this study might be found interesting and found to contain useful information about the Internet users' perception toward the "cloud", it has a number of limitations. As a case in point, this study was conducted in just some specific regions and focused on specific job positions. Although, I already have covered a relatively broad range of countries, further researches on other job positions should be done to verify the result(s) of this study on a broader scale.

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2 SURVEY METHODOLOGY

I surveyed 183 persons with different categories including IT specialists, professors and employees in IT, software and hardware related works as well as common Internet users. All of them were asked to respond anonymously to my online questionnaire[1] which includes 25 questions [see Appendix A]. In all, roughly 52 people responded to the survey, yielding a response rate of 28.41%.

This survey was performed over a period of 5 days from 11th to 16th May 2011 and the questionnaire was distributed among people in France, Germany, Sweden, England, US, Canada, Australia, India, Iran, UAE, Maldives and Malaysia. The 52 responses came from all regions.

The survey was a set of questions administered through a *Google Docs Form*, consisting of multiple-choice, checkboxes and range-based questions.

3 SURVEY RESULTS

In this part I review the results of the study and I focus on patterns and differences among segments.

3.1 Respondents

In order to segment the respondents' answers and to understand who was responding, a few questions of my

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[1] I prepared this questionnaire based on my studies of various "cloud computing" articles, which I have mentioned in the References part.

questionnaire were about their background. The sample is heavily biased towards my colleagues, my professors and my friends in the mentioned regions.

3.1.1 Are you familiar with "Cloud Computing"?

As I wanted to analyze the concept of "cloud computing" towards both IT experts and those who are not directly related to IT industry, the first question of the question-naire was about their general vision about it. The received data shows that 23% of the respondents were not familiar with "Cloud Computing" at all, which is a high rate and shows that in order to make it known and possibly popular, more efforts are needed.
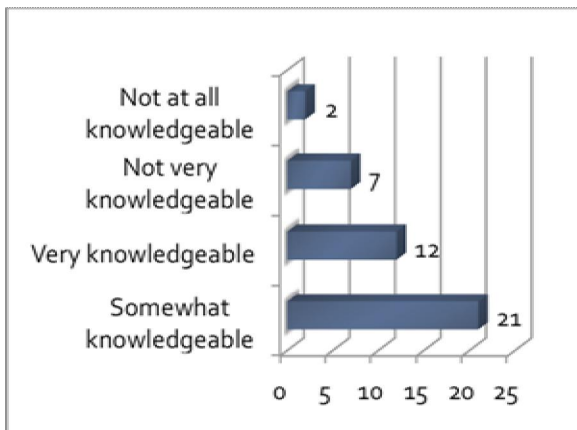
3.1.2 How do you rate your knowledge on "Cloud Computing"?

Among 42 answers received for this question, 40% of respondents were "somewhat knowledgeable". This statistics also depict the need for training and advertising this concept more in order to encourage people to use its utilities and services.

3.1.3 Are you using "Cloud Computing"?

The answers to this question depicts that 90% of responents among 42 responses received for this question, were using "Cloud Computing" utilities or services. For more details about the types of these services and utilities please refer to part 3 of this article "Cloud's Services, Providers and Offerings".

3.1.4 Where are you using "Cloud Computing"?

Another aspect that should be considered is that nowadays cloud's services are available in various classifications that can be used both in personal life and at work. I prepared a multiple-choice question; people could select several options that added up the percentages more than 100%.

51% of respondents are using cloud's related services and

utilities perforce at work and 46% of respondents are using the cloud related services personally, which are indications that the usage of cloud computing services and utilities is going to find its position at work places as well as personal life.

3.2 Cloud's Position at Work Places

In this part, I analyzed the answers related to the most recently used popular cloud services and cloud providers. Although the sample size is not large enough to project the result of this part in general, it is useful to recognize which cloud providers and services have been successful so far.

3.2.1 If you are using "Cloud Computing" at work, What kind of company do you work for?

To gather precise data about the types of companies that are using cloud services seriously at their business and work place, I intentionally separated companies into a relatively small set of company structures, from private start-ups to global giants; but it seems that my categorization was not clear enough as many respondents (43%) selected "Other". If I repeat this study, I would break this segmentation down into more detailed categories to avoid having people unable to fit themselves into a specific group. In addition, I would add a field for the respondents to mention the specific type of company in order to make a later re-sorting possible.

21% of respondents worked for "an international company" and 14% of respondents worked in "a public company". Based on this classification, "government or nonprofit organizations" are at the lowest rate of using cloud's related services with 4% and "private non-tech companies" are the second lower one with 7%.

3.2.2 If you are using "Cloud Computing" at work, What is the number of employees?

I also asked for the number of employees working at the respondent's company in order to have another aspect for analyzing the popularity of cloud services at work places. Based on my analysis cloud related services and utilities are more common in moderate companies with the number of employees between 11 and 100 (19%) and in small companies with less than 10 employees (17%).

3.2.3 If you are using "Cloud Computing" at work, what industry do you work in?

It seems that the question about industry sector was also insufficiently categorized, as half of the respondents (exactly 50%) chose "other" which depicts that the list of industry vertical I prepared by using http://en.wikipedia.org/wiki/Vertical_market#Examples was not an accepted list by respondents. I used a relatively

small numbers of Verticals to make analysis and visualization possible.

Excluding the mentioned half answers, among the remaining half of the responses, "Telecommunication" and "Financing, Banking, Insurance" industries had the higher rank with 17% and "R&D" industry with 12% was the second one. Unfortunately, "Education" industry reached just 2%, which shows that cloud's related services are alien ones in this industry that should be empowered without any doubt in order to acculturate the usage of cloud's utilities.

3.2.4 If you are using "Cloud Computing" at work, what is your job?

This question seems not clear and well categorized enough, as a significant number of respondents (52%) chose "other" which states that either respondents tried to be more specific about their job title, rather than picking a broader title from the list or I had to make more assumptions about the list of jobs. I tried to prepare a list of those jobs that I found more eager to use cloud computing based on my studies on relevant articles.

Excluding the mentioned 52%, among the remaining part of the responses, "software engineers and developers" with 15% are at the top users of cloud's services following by "IT & software consultants" and "project managers" with 10%.

3.3 Cloud's Services, Providers and Offerings

In this section I investigate the popularity of some of cloud's pioneers and its offerings, which can be highlighted in users' expectations from cloud's services in further researches by considering that why some of cloud's providers are more successful than others.

3.3.1 Which public "Cloud Providers" or "Cloud Services" are you using (Personally or At work)?

To find the most popular cloud services and cloud providers among the respondents, I prepared a multiple-choice question; people could select several options that added up the percentages more than 100%.

"Google Apps Engine" got the highest rate among the other cloud providers and cloud services by 68% of respondents. It shows the popularity of Google's cloud services. Surprisingly "Dropbox" with 45% got the second high rate and transcended "VMWare" and "Amazon". Although I tried to list the most popular cloud services and providers, 35% of respondents chose "other" which shows that they were using other cloud utilities and I had to make more assumptions about this list. If I repeat this study, I would modify the current list, and add a field for respondents to mention the specific service and provider they use in order

to make a later re-sorting possible.

3.3.2 Which one of the following "Cloud Offerings" are in your or your company's plans or usage?

I prepared a multiple-choice question to find the most attractive cloud offerings. People could select several options that added up the percentages more than 100%.

"Application Platforms & Development Software" got the highest rank by 56% of responses and "Enterprise Application Software" with 50% and "Networks" with 47% got the second and third position respectively. "Utilities/Management Software" got the lowest rate 28% without considering the 6% of responses on "Don't know" option.

3.3.3 How much are you using private Infrastructure as a Service (IaaS)?

Cloud infrastructure services, also known as "Infrastructure as a Service" (IaaS), deliver computer infrastructure – typically a platform virtualization environment – as a service. Rather than purchasing servers, software, data-center space or network equipment, clients instead rent those resources as a fully outsourced service.

While 12% of respondents were totally unfamiliar with IaaS, 8% chose "Heavily Adoption" and "27% chose "Some use" option, which shows that they were actually aware of it. 4% of respondents chose "Currently testing" and 6% selected "Looking into it", which illustrates that they are going to improve their knowledge about IaaS.

3.3.4 How much are you using public Software as a Service (SaaS)?

Software as a service, sometimes referred to as "on-demand software," is a software delivery model in which software and its associated data are hosted centrally (typically in the (Internet) cloud) and are typically accessed by users using a thin client, normally using a web browser over the Internet.

While 12% of respondents were totally unfamiliar with SaaS, 17% chose "Heavily Adoption" and "21% chose "Some use" option, which shows that they were aware of it. 10% of respondents chose "Currently testing" and 8% selected "Looking into it" that illustrates they are going to improve their knowledge about SaaS.

3.3.5 How much are you using private Platform as a Service (PaaS)?

Platform as a Service (PaaS) is the delivery of a computing platform and solution stack as a service. PaaS offerings facilitate deployment of applications without the cost and complexity of buying and managing the underlying hardware and software and provisioning hosting capabilities, providing all of the facilities required to support the com-

plete life cycle of building and delivering web applications and services entirely available from the Internet.

While 13% of respondents were totally unfamiliar with PaaS, 12% chose "Heavily Adoption" and "23% chose "Some use" option, which shows that they were aware of it. 12% of respondents chose "Currently testing" and 2% selected "Looking into it" that illustrates they are going to improve their knowledge about PaaS.

3.3.6 What are your Primary Reasons to use "Cloud Computing"?

To have a clear vision about the usage of cloud related services and utilities, I asked respondents' reason(s) of using these kinds of services and gave them the opportunities to select more than one checkbox, so percentages added up to more than 100%.

"Share Data" with 53% rate is the most important reason of using cloud computing whereas "Hide Data" with 11% rate is the least important one. "Reduce Hardware" stands in the second important reason with 50% rate. Moreover, 37% of respondents used cloud computing for "Back up Data".

3.4 Concerns about Cloud's Services and providers

I investigated people's concerns about clouds, and requested their opinions and belief about cloud's security and its services in relation to their business besides their feeling about cloud's reliability. In this part I analyzed these concerns.

3.4.1 What are your overall concerns about "Cloud Computing"?

I prepared a list based on discussions with IT managers and end-users and using the article "*Bitcurrent cloud computing survey 2011*". Respondents could select more than one checkbox, so percentages added up to more than 100%. I should mention that the goal of this part was to rate the concerns that I had heard several times regarding usage of cloud utilities and services. Therefore, this list is not a catalog of concerns. My list of concerns is available on Appendix B.

"Data Privacy" with 50% and "Loss of Control Over Data" with 39% are the highest rated concerns while the "Escalation" seems not to be a concern at all by 0%. "Reliable uptime" and "Lock-in" with 29% are considered other high concerns. Surprisingly, 13% of respondent were not sure about cloud services and 5% had the general feeling of danger and ennui about clouds although they were using them.

3.4.2 Do you think that current on-demand offerings are appropriate for current businesses?

The answers to this question depict that 64% of respondents among 36 responses received for this question thought or believed that the current on-demand offerings are appropriate for current businesses whereas 36% had the opposite belief.

3.4.3 Is "Cloud Computing" Security strong enough?

As I heard several doubtful statements about clouds' securities, I was curious to gather the related opinions of cloud users via my survey. Hence I put this question into my questionnaire.

Surprisingly, among 37 responses received for this question 49% of respondents announced that the security of cloud computing is not strong and 30% stated that they had no idea about it. Merely 21% of respondents believed that the security of cloud computing is strong.

3.4.4 How much do you trust using "Cloud Computing"?

Following my previous question I also wanted to collect the rate of cloud's trustworthy among its users, therefore I added this question to my survey's questionnaire.

While 33% of respondents announced that they fully trusted cloud computing, 35% of other respondents trusted cloud computing for 75% and only 2% didn't trust cloud computing at all.

3.5 Motivations for using Cloud's Utilities and Services

To find the motivation levels in cloud's users, I prepared a multiple-choice question.

3.5.1 What are your motivations to use "Cloud Computing"?

Respondents could select more than one checkbox, so percentages added up to more than 100%. "Speed to Deploy" with 56% of responses got the first rank in motivation aspects of using cloud services, utilities and offerings. "Lower Cost" and "Elasticity" with 51% and 44% got the second and third ranks respectively. "Market Differentiation" was the lowest motivated aspect. As 15% of respondents chose "Other" option as well, in case of repeating this survey or any similar one, other motivated issues should be pursued in order to modify my current list. An added field would be appropriate for the respondents to mention the specific reason in order to make a later re-sorting possible.

3.6 Future of Cloud Computing

I prepared some questions to gather the opinions and belief

of respondents about the future of cloud computing, which I analyzed in this part.

3.6.1 Do you think that "Cloud Computing" will cause a radical shift in information technology driving the next wave of innovation?

The answers to this question depicts that 79% of respondents among 38 responses received for this question, thought or believed that "Cloud Computing" will cause a radical shift in information technology which drives the next wave of innovation, however 21% did not have the same idea.

3.6.2 Do you think that "Cloud Computing" is an evolving concept that will mature soon?

The answers to this question illustrates that 78% of respondents among 37 responses received for this question, thought or believed that "Cloud Computing" is an evolving concept that will mature soon, whereas 22% did not have the same idea.

3.6.3 Do you agree with this quote: "Cloud Computing will be the next Revolution in IT technology; it is NOT a "passing fad" and can last long."?

The answers to this question shows that 72% of respondents among 25 responses received for this question, agreed that "Cloud Computing" will be the next revolution in IT technology and will last long as it is not a passing fad, whereas 28% did not agree with it.

3.7 Analysis on the Reasons of NOT using Cloud Computing

I prepared some questions that analyzed them in this part to clarify whether there are plans use cloud computing in the future among those who are not using cloud computing yet, and to investigate the main reason(s) of not using cloud services and utilities.

3.7.1 If you are not using "Cloud Computing", is it on your business or personal Tech Roadmap to be used?

Amazingly 52% of respondents among 27 responses received for this question stated that they did not have any plan to use cloud computing and its services. This is another hint that shows us that an increased use of cloud computing would need acculturating the use of cloud's related utilities, and informing people about cloud computing's benefits and advantages.

3.7.2 If you are not using "Cloud Computing", what are the reasons that you don't use "Cloud Computing"?

To recognize the main reasons of rejecting cloud computing or being reluctant in using it, I asked this question and gave respondents the opportunities to choose more than one checkbox, so percentages added up to more than 100%.

"Lack of Knowledge about cloud computing" and "Low Speed Internet " were the main reasons of not using cloud services with 56% rate. 22% stated that they did not need using cloud computing. Another 22% announced that they did not use cloud utilities as cloud computing has not become popular enough and its future is vague. Again these statistics show that advertising about cloud's advantages can motivate people to learn about cloud computing and improve their knowledge in order to use the benefits of it. 22% announced that they did not trust cloud's features to use.

3.7.3 If you do not trust "Cloud Computing", what are your reasons?

As I have heard several times that cloud computing is not reliable, I was curious to know the reason(s) that people think or believe preventing them in counting on cloud services and cloud providers. Hence, I asked this question and let people choose more than one option, so percentages added up to more than 100%.

73% of respondents announced that they think that the owners of Internet can always control and fetch their data whenever they want. 45% stated that they do not trust any of Internet-based services, which may be attacked by a group of hackers to steal data.

I added an option by considering this truth that "confidential data" can be disclosed and published referring to those confidential documents of US Army that had disclosed in WikiLeaks website; 36% of respondents chose this option which illustrates the fears people have in using cloud to store confidential and financial documents of their businesses. Only 18% stated that they had a feeling of skeptic about the cloud-computing concept.

4 CONCLUSION

Although I focused on cloud's users' perception (just one aspect of "Cloud Computing") , the analysis I have done can be useful for cloud providers, marketers and analysts to understand how to position their products, and for IT managers to understand their industries' concerns and biases, and for end users to figure out the improvement of this evolving concept and its advantages.

My analysis shows that some motivators (Speed, Cost and Elasticity) are common across most industries and users. Also some concerns (Data Privacy & Loss of Control over Data, Reliable uptime and Lock-in) are common in most industries and users.

The small sample of my survey implies that the highly segmented data should not be relied on without further verification and a more controlled selection process. It is, however, a model for how to conduct further research into the adoption of on-demand computing technologies.

Based on my analysis, there is significant variance in opinion about "Cloud computing" in general, and cloud's adoption, motivations, and concerns across various types of industries, companies & organizations, their sizes, their job descriptions, and their expectations.

Based on my analysis in different parts of this survey, it is clear that the main reason of not using cloud services and utilities is the lack of knowledge about them. Hence, in order to acculturate using "Cloud Computing", more efforts would be needed. To be able to use cloud offerings seriously, it is vital to invest more on identifying cloud's concept and its benefits by training and workshops. Advertising about this technology, which is going to generate another revolution in IT industry (the industry which has various effects on almost all other industries nowadays), is crucial in order to reduce doubts and ambiguities about it and increase both the usage and support of it.

5 ACKNOWLWDGMENT

6 END SECTIONS

6.1 Appendices

6.1.1 Appendix A: "User's Perception Towards Cloud Computing" Questionnaire

1. Are you familiar with "Cloud Computing"? If your answer is No, you can stop answering this questionnaire. Thanks for your participation.
- ○ Yes
- ○ No

2. How do you rate your knowledge on "Cloud Computing"?
- ○ Very knowledgeable
- ○ Somewhat knowledgeable
- ○ Not very knowledgeable
- ○ Not at all knowledgeable

3. Are you using "Cloud Computing"? If your answer is Yes please go to question 4, otherwise please go to question 23
- ○ Yes
- ○ No

4. Where are you using "Cloud Computing"?
- ☐ Perforce At Work
- ☐ Voluntary Personally
- ☐ Just to figure out its capability

5. If you are using "Cloud Computing" at work, What kind of company do you work for?
- ☐ A startup (pre-breakeven, self- or VC-funded)
- ☐ A large web business (breakeven, around for less than 3 years)
- ☐ A large web business (breakeven, around for 3 years or more than 3 years)
- ☐ A government or nonprofit organization
- ☐ An international company operating in several countries
- ☐ A private non-tech company operating regionally
- ☐ A public company
- ☐ Other

6. If you are using "Cloud Computing" at work, What is the number of employees?
- ○ Just me
- ○ Less than 10
- ○ 11 to 100
- ○ 101 to 1000
- ○ More than 1001

7. If you are using "Cloud Computing" at work, What industry do you work in?
- ○ Telecommunications
- ○ R&D
- ○ Finance, banking, or insurance
- ○ Entertainment, media
- ○ Education
- ○ Law, management consulting
- ○ Manufacturing
- ○ Health & medicine
- ○ Retail sales
- ○ Energy
- ○ Logistics, transportation
- ○ Real estate, construction
- ○ Gaming & Gambling
- ○ Travel & leisure
- ○ Food & beverage
- ○ Automotive
- ○ Other

8. If you are using "Cloud Computing" at work, What's your job?

- ○ CEO
- ○ Software Engineer, Developer
- ○ Project Manager
- ○ IT Consultant or Software Consultant
- ○ Software Designer
- ○ DBA
- ○ QA and testing
- ○ Legal & contracts
- ○ HR
- ○ Finance, accounting
- ○ Operations, production
- ○ Marketing, communications, PR
- ○ Sales, business development
- ○ Shipping, logistics
- ○ Other

9. Which public "Cloud Providers" or "Cloud Services" are you using (Personally or At work)?

- ☐ Google Apps Engine
- ☐ Amazon Web Services
- ☐ Microsoft Azure public cloud
- ☐ Dropbox
- ☐ VMware
- ☐ OpenStack
- ☐ Rackspace Cloud
- ☐ Salesforce Force.com
- ☐ Terremark Cloud
- ☐ Joyent
- ☐ Gogrid
- ☐ Savvis Symphony
- ☐ Github
- ☐ Heroku
- ☐ Success Factors
- ☐ Twilio
- ☐ Other

10. What are your motivations to use "Cloud Computing"?

- ☐ Lower costs (Saving money through lower total costs and reduced upfront investment)
- ☐ Elasticity (The ability to grow and shrink capacity with demand)
- ☐ Speed to deploy (Time to develop, test, deploy, and procure components goes down with clouds)
- ☐ Better security (Access to a cloud provider's security infrastructure)
- ☐ Arm's-length employees (Third-party providers' separation from the day-to-day business, which is good for security and fraud)
- ☐ Wide set of services (Cloud providers offering additional services such as message busses, mailing and payment systems, image manipulation, and large-scale storage)
- ☐ Access to talent (Ability to use a cloud provider's employee's expertise rather than having to hire internally)
- ☐ Just like clouds (Generally positive feeling about utility computing)
- ☐ Scale (advanced security measures are more affordable when done on a large scale, allowing cloud providers to invest more in security)
- ☐ Market differentiation (security concerns motivate providers to improve security practices)
- ☐ Standardized interfaces (large cloud providers can offer a standardized, open interface to managed security services providers)
- ☐ Resilience (ability of clouds to reallocate resources for authentication, encryption, etc.)
- ☐ Audit and evidence-gathering (clouds can readily analyze possible breaches and generate logs)
- ☐ Updates (timely patches, updates and security settings can be rapidly rolled out or adjusted)
- ☐ Resource concentration (cheaper and easier to control access to one large facility than many smaller ones)
- ☐ Other

11. What are your overall concerns about "Cloud Computing"?

- ☐ Data privacy (Concerns over the leakage of information when it's managed by someone else)
- ☐ Infrastructure control (Inability to dictate what happens to infrastructure, who can disable it, and who ultimately controls it)
- ☐ Reliable uptime (Inability of a provider to deliver the same availability that a company can offer itself)
- ☐ High costs (Higher overall cost for recurring utility bills than the cost of in-house infrastructure and operations)
- ☐ Lock-in (Being stuck with a provider, and unable to move, because of some dependency)
- ☐ Performance issues (Slow application performance, particularly

because of the fact that resources are shared with others)

☐ Architectural needs (Integration with existing systems & applications has specific requirements that may won't work in the cloud)

☐ Networking costs (Compared to the cost of moving bytes around, everything else is cheap. As clouds are elsewhere, networking costs will be high)

☐ Job security (Concerns that private IT will lose its jobs to public providers)

☐ Escalation concerns (Inability to escalate problems to someone who can fix them; not having "one throat to choke")

☐ Ability to bring systems back in-house

☐ Loss of control over data

☐ Availability concerns

☐ IT governance issues

☐ Regulatory/compliance concerns

☐ Dissatisfaction with vendor offerings/pricing

☐ Lack of customization opportunities

☐ Just don't like it (A general feeling of danger and ennui about clouds)

☐ Not sure

☐ Other

12. Which one of the following "Cloud Offerings" are in your or your company's Plans or Usage?

☐ Application platforms & development software (web servers, design tools)

☐ Collaboration tools (wikis, web conferencing)

☐ Enterprise application software (CRM, ERP, Supply Chain, BI)

☐ Personal productivity software (word processing, e-mail, spreadsheet)

☐ Utilities/management software (anti-virus, spam filters, desktop management)

☐ Networks

☐ Servers

☐ Storage

☐ Don't know

13. How much are you using private Infrastructure as a Service (IaaS)? Cloud infrastructure services, also known as "Infrastructure as a Service" (IaaS), delivers computer infrastructure – typically a platform virtualization environment – as a service. Rather than purchasing servers, software, data-center space or network equipment, clients instead buy those resources as a fully outsourced service.

○ Heavy adoption

○ Currently testing

○ Some use

○ Looking into it

○ Not at all

○ Never heard about it before

14. How much are you using public Software as a Service (SaaS)? Software as a service, sometimes referred to as "on-demand software," is a software delivery model in which software and its associated data are hosted centrally (typically in the (Internet) cloud) and are typically accessed by users using a thin client, normally using a web browser over the Internet.

○ Heavy adoption

○ Currently testing

○ Some use

○ Looking into it

○ Not at all

○ Never heard about it before

15. How much are you using private Platform as a Service (PaaS)? Platform as a Service (PaaS) is the delivery of a computing platform and solution stack as a service. PaaS offerings facilitate deployment of applications without the cost and complexity of buying and managing the underlying hardware and software and provisioning hosting capabilities, providing all of the facilities required to support the complete life cycle of building and delivering web applications and services entirely available from the Internet.

○ Heavy adoption

○ Currently testing

○ Some use

○ Looking into it

○ Not at all

○ Never heard about it before

16. Do you think that "Cloud Computing" will cause a radical shift in information technology driving the next wave of innovation?

○ Yes

○ No

17. Do you think that "Cloud Computing" is an evolving concept that will mature soon?

○ Yes

○ No

18. Do you think that current on-demand offerings are appropriate for current businesses?

○ Yes

○ No

19. What are your Primary Reasons to use "Cloud Computing"? In which cases are you using "Cloud Computing"?

☐ Scalability on demand/flexibility to the business

☐ Reduced hardware infrastructure costs

☐ Reduced IT staffing/administration costs

☐ Access to skills/capabilities I/we have no interest in developing in-house

☐ Capacity - data center

☐ Capacity - storage

☐ Frequent software updates

☐ Not using or planning to use "Cloud Computing" offerings

☐ Share Data with colleagues, friends, etc.

☐ Back-up Data

☐ Hide Confidential & Secret Data from others who have access to my laptop/PC.

☐ Access to Data from all over the world with or without my laptop, mobile,etc.

☐ Other

20. Is "Cloud Computing" Security strong enough?

◯ Yes

◯ No

◯ Don't have any idea as Vendors have not adequately addressed security concerns around on-demand offerings.

21. How much do you trust using "Cloud Computing"?

[100 % ▲▼]

22. If you are not using "Cloud Computing", Is it on your business or personal Tech Roadmap to be used? If the answer is No, you can stop answering this questionnaire here. Thanks for your participation.

◯ Yes

◯ No

23. If you are not using "Cloud Computing", What are the reasons that you don't use "Cloud Computing"?

☐ Because I don't trust "Cloud Computing"

☐ Because I don't know exactly what can I do with "Cloud Computing"

☐ Because I don't have access to high speed internet to be able to use "Cloud Computing"

☐ Because using "Cloud Computing" is not popular and I am not sure about its future that can be succeed or failed.

☐ Because I don't need "Cloud Computing"

☐ Frankly I have never thought about using or not using "Cloud Computing"

24. If you do not trust "Cloud Computing", What are your reasons?

☐ Because I do not trust any of Internet-based services which may be attacked by a group of hackers to steal data.

☐ Because when the confidential data of US Army can be disclosed & published on WIKILEAKS, the data on internet can be accessed easier by hackers.

☐ Because I always think that the owners of Internet can always control and fetch my data whenever they want.

☐ Just don't feel OK about it (A general feeling of skeptic)

25. Do you agree with this quote: "Cloud Computing will be the next Revolution in IT technology; It is NOT a "passing fad" and can last long."?

◯ Yes

◯ No

6.1.2 Appendix B: List of Concerns

Ability to bring systems back in-house
Loss of control over data
Availability concerns
IT governance issues
Regulatory/compliance concerns
Dissatisfaction with vendor offerings/pricing
Lack of customization opportunities
Data privacy: Concerns over the leakage of information when it is managed by someone else.
Infrastructure control: Inability to dictate what happens to infrastructure, who can disable it, and who ultimately controls it.
Reliable uptime: Inability of a provider to deliver the same availability that a company can offer itself.
High costs: Higher overall cost for recurring utility bills than the cost of in-house infrastructure and operations.
Lock-in: Being stuck with a provider, and unable to move, because of some dependency.
Performance issues: Slow application performance, particularly because of the fact that resources are shared with others.
Architectural needs: Integration with existing systems & applications has specific requirements that may not work in the cloud.
Networking costs: Compared to the cost of moving bytes around, everything else is cheap. As clouds are elsewhere, networking costs will be high.
Job security: Concerns that private IT will lose its jobs to public providers.
Escalation concerns: Inability to escalate problems to someone who can fix them; not having "one throat to choke".
Just don't like it: A general feeling of danger and ennui about clouds.

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