

## 1. Summary Report

Many software development activities could be assigned to external resources at task based cost (estimate for each workitem) instead of hourly based (monthly hours guaranteed by the employer).

Task based accounting allows significant savings but it is necessary to consider the associated risks and hidden costs to obtain the real benefit by mitigating the risks. And this requires new expertise.

It is a challenge to which we are called without being able to escape.

## 2. Overview

Citizen Developers create new applications using development environments and standards accepted and supported by the company's IT.

With their skills and expertise, they can help get the right applications in competitive time and cost without creating friction with the developers of the IT company (Business Developer).

## 3. Ten Key Questions to Make the Decision

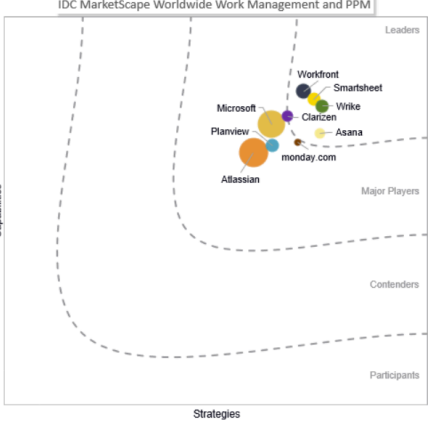

Question	Answer
Q1: What is the situation facing IT companies today?	The gap between customer demand and the production capacity of IT companies sees IT companies unable to solve problems immediately and effectively. From the point of view of the End User, things must always work and in any case, whether it is the delivery of the shopping in two hours or if it is a telemedicine application at 2 am. The End User does not care about the back-end infrastructure that supports these systems.
Q2: What is the solution?	Citizen Developers are important to lighten the software development of the internal resources of the IT company. Although this solution smoothes the supply / demand gap, it could cause other more serious problems if not managed correctly.
Q3: What is the definition of the Citizen Developer?	The Citizen Developer is a technologist who builds applications to facilitate business operations processes following IT development guidelines.  Definition by Gartner Group A Citizen Coder (aka Citizen Developer) is "a technologist who creates new business applications for use by other users using development and runtime environments sanctioned by corporate IT" (April 3, 2019).

	<p>All Citizen Developers are business technologists. However, all business technologists are not necessarily Citizen Developers.  <a href="https://www.gartner.com/en/information-technology/glossary/citizen-developer">https://www.gartner.com/en/information-technology/glossary/citizen-developer</a></p> <p>Definition by Microsoft</p> <p>The Citizen Developer is a person who builds applications to facilitate business processes following the development guidelines of the IT manager. Unlike Business Developers, they may not have formal programming training and development may not match the job description required for an internal corporate Business Developer.  <a href="https://www.microsoft.com/itshowcase/blog/solving-automation-challenge-at-microsoft-with-citizen-development-microsoft-power-platform/">https://www.microsoft.com/itshowcase/blog/solving-automation-challenge-at-microsoft-with-citizen-development-microsoft-power-platform/</a></p>
<p>Q4: How does a Citizen Developer differ from a Business Developer?</p>	<ul style="list-style-type: none"> <li>• The Citizen Developer - unlike a corporate Business Developer - may not have formal training and sometimes may not meet stringent company standards.</li> <li>• The Citizen Developer is paid based on the work produced (task based) according to the agreed budget and not based on the hours spent, typical of corporate Business Developers (hourly based).</li> </ul>
<p>Q5: What is the trend in the use of Citizen Developers?</p>	<p>Gartner predicts that by 2023, "the number of Citizen Developers hired in large companies will be at least four times higher than the number of professional developers in-house IT companies."</p>
<p>Q6: What are the advantages?</p>	<ul style="list-style-type: none"> <li>• <b>Accelerated innovation:</b> Because Citizen Developers can be given less binding standards and will be able to develop more rapidly with immediate relapse of know-how and without side effects. Fewer constraints open more openings to creativity!</li> <li>• <b>Cost effective:</b> Because Citizen Developers are used only for the time necessary and are paid based on the work items approved, delivered and accepted by the IT Manager (task based).</li> <li>• <b>Decreased time to market (up to 10x faster):</b> Because adding more Citizen Developers allows the reduction of TTM (Time-To-Market) without significantly affecting costs.</li> <li>• <b>Mitigation of the effects of the leakage of know-how:</b> Because the know-how is not concentrated on a single developer and therefore the IT company is not technologically blackmailable.</li> <li>• <b>Reduction of time and costs for the handover:</b> Because application knowledge is generally spread across several developers.</li> <li>• <b>More elegant source code:</b> Because the controller (TL, Team Leader) actually controls the controlled (Developer).</li> <li>• <b>User experience and robustness of the application:</b> Because the functionalities of the source code are scrupulously double checked by QA (Quality Assurance) which has a profile closer to the end user, that is, focused on the commands that control the engine while the developer is fascinated by the algorithms and the optimization of the engine.</li> <li>• <b>Flexibility:</b> Because Citizen Developers are more open to task force assignments because their bills are more convincing!</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Turn idea people into application kickstarters:</b> Because Citizen Developers are quite refractory to corporate bureaucracy and therefore able to release prototype solutions and pilot projects in burning times.</li> <li>• <b>Better collaboration:</b> Because Citizen Developers perceive the IT firm's Team Leader and software coaches as customers and not as bosses.</li> <li>• <b>Both departmental and enterprise-grade applications:</b> Because Citizen Developers are interested in increasing their invoices and each new request is perceived as a new invoice and for this they do everything possible not to compromise the interdepartmental balance of the IT company.</li> </ul>
<p>Q7: What are the risks and how to mitigate them?</p>	<p>Using low-level software components sometimes means low support, low quality, lack of robustness in terms of privacy and security.</p> <p>Without adequate governance, the source codes could be redundant and the internal know-how does not take advantage of the technological impact of the Expertise of Citizen Developers.</p>
<p>Q8: What kind of governance is needed?</p>	<ul style="list-style-type: none"> <li>• <b>Profiling:</b> hiring the right candidates.</li> <li>• <b>Robust processes:</b> QA (Quality Assurance, Alfa Testing), UAT (User Acceptance Testing, Versioning, Continuous Integration), etc .</li> <li>• <b>Visibility of activities:</b> to the IT manager through a collaborative platform.</li> <li>• <b>Open communications:</b> between Citizen Developers and IT coaches.</li> <li>• <b>Authorizations with organizational guardrails:</b> in order to ensure compliance, security and risk mitigation.</li> <li>• <b>Source code reuse:</b> for greater robustness and scalability of the source code produced.</li> <li>• <b>Accounting:</b> Work items assigned to each Citizen Developer through a shared and indisputable platform.</li> <li>• <b>Planning and control:</b> in order not to lose control of objectives and time reference through a shared platform.</li> </ul>
<p>Q9: Why are we forced to change?</p>	<p>"The industry is changing, our competitors are changing, our consumers want more." - Mylene Mayers (Information Manager for Aftermarket Information Systems, Toyota Motor, North America).</p>
<p>Q10: How does a typical workflow work?</p>	<ol style="list-style-type: none"> <li>1. Open the work items that can be assigned to the Citizen Developer.</li> <li>2. Instruct the HR manager to select the appropriate profiles and make the first selection with psychometric and technical interviews.</li> <li>3. Final interview of the candidate by the IT Manager.</li> <li>4. Administer a training session to the new Citizen Developer.</li> <li>5. Assign the work item to the hired Citizen Developer and approve his quote.</li> <li>6. Start the production cycle of the work item up to the acceptance test (status = UAT, User Acceptance Testing).</li> <li>7. Close the production cycle of the work item (Status = Done).</li> <li>8. Produce the report of the remuneration due to the Citizen Developer that the treasury office will settle in accordance with the agreed payment method.</li> </ol>

4. What AWS can do for your IT Manager?	
Topic	Description
Hiring, Head Hunting, HR	AWS has used Citizen Developers since its establishment in 2017, cultivating a community of over 2,000 Italian and Albanian developers from which to draw the appropriate skill for the kick-off of the task force.
Platforms	Since the development is crumbled into small pieces (small fires) then an easy-to-use project management platform is required, which can adapt to the evolution of both small and large projects using different methodologies (agile, extreme programming etc.) and all kinds of languages and environments. Microsoft Azure meets all of these requirements.
Experience	AWS has used many Citizen Developers for its low-level applications embedded in larger applications.
Accounting	Usually the counts are performed with SpreadSheet (typically Excel) which are not very reliable and require continuous and careful maintenance. These same reports can be automatically obtained within the Project Management platform (i.e. Microsoft Azure) shared by all stakeholders without maintenance costs and without particular attention.
Business Model	<p>AWS treats this business as a start-up of which AWS is the incubator. So it provides what is called "servuction" in the jargon.</p> <p>That is, it provides all the tools, all its experience to make this new organizational approach cost-effective by transferring training and know-how at all levels so that the customer can become independent.</p> <p>The price of this service will be adjusted according to the objectives and responsibility of AWS.</p> <p>At the end of the start-up, a bonus could be provided if the objectives are met or discounts in case of deviance.</p> <p>At the end of the start-up, which usually does not last more than 3 months, the customer can decide which activities will be insourced and which will be delegated to AWS as services. In this case, AWS will submit its economic offer.</p>

5. References & Insight		
Topic	Caption	References
Accounting Platform	Accounting for hybrid development (Citizen Developer & Business Developer within the company) is a feature that Azure is able to manage very well.	<a href="https://www.microsoft.com/itshowcase/blog/moving-microsofts-financial-reporting-processes-to-microsoft-azure/">https://www.microsoft.com/itshowcase/blog/moving-microsofts-financial-reporting-processes-to-microsoft-azure/</a>  <a href="https://www.microsoft.com/itshowcase/blog/how-microsoft-is-reimagining-meetings-for-a-hybrid-work-world/">https://www.microsoft.com/itshowcase/blog/how-microsoft-is-reimagining-meetings-for-a-hybrid-work-world/</a>

		<p><b>FIGURE 1</b> <b>IDC MarketScape Worldwide Work Management and Project and Portfolio Management Vendor Assessment</b></p>  <p>Source: IDC, 2019</p> <p>Fonte: IDC January 2020, IDC #US45940620e.</p>
<p>Microsoft Azure (Gartner Review)</p>	<p>Microsoft is a Leader in this Magic Quadrant.</p> <p>Strengths Overall viability: Microsoft competes strongly in this market, aided by strong year-over-year revenue growth in 2020.</p> <p>Cautions Learning curve: Users of Gartner’s client inquiry service and Peer Insights reviewers have expressed concerns that deeper training and support are required in order to maximize benefits.</p> <p>Support team synergies: Users of Gartner’s client inquiry service have reported mixed results when working with Microsoft’s support services.</p>	<p><a href="https://www.gartner.com/reviews/market/public-cloud-iaas/vendor/microsoft/product/azure">https://www.gartner.com/reviews/market/public-cloud-iaas/vendor/microsoft/product/azure</a></p> <p><a href="https://www.gartner.com/doc/reprints?id=1-26J9YJGG&amp;ct=210616&amp;st=sb">https://www.gartner.com/doc/reprints?id=1-26J9YJGG&amp;ct=210616&amp;st=sb</a></p> <p><b>Magic Quadrant</b> Figure 1: Magic Quadrant for the CRM Customer Engagement Center</p>  <p>Source: Gartner (June 2021)</p>
<p>The importance of Citizen Developers (Gartner Group)</p>	<p>The Importance of Citizen Developers and Business Developers. October 10, 2019</p>	<p><a href="https://blogs.gartner.com/jason-wong/importance-citizen-development-citizen/">https://blogs.gartner.com/jason-wong/importance-citizen-development-citizen/</a></p>
<p>Trend del Citizen Developer</p>	<p>Low-code development: Why demand for Citizen Developer tools is growing fast?  The Future of Apps must Include Citizen Development.</p>	<p><a href="https://www.techrepublic.com/article/low-code-development-why-demand-for-citizen-developer-tools-is-growing-fast/">https://www.techrepublic.com/article/low-code-development-why-demand-for-citizen-developer-tools-is-growing-fast/</a></p> <p><a href="https://www.gartner.com/en/documents/3970067/the-future-of-apps-must-include-citizen-development">https://www.gartner.com/en/documents/3970067/the-future-of-apps-must-include-citizen-development</a></p>

<p>Introducing PMI Citizen Developer</p>	<p>Learn how to unlock the potential of Citizen developers in your organization.</p> <p>Join the Citizen Revolution!</p> <p>Digital transformation takes a team.</p>	<p><a href="https://www.pmi.org/citizen-developer?utm_job_number=159&amp;utm_region_name=europe&amp;utm_funnel_stage=customer_acquisition&amp;utm_marketing_channel=paid_media&amp;utm_marketing_subchannel=search_ppc_nonbranded&amp;utm_start_date=03252021&amp;utm_end_date=12122030&amp;utm_source=google&amp;utm_custom_field_one=citizen_developer_europe&amp;utm_custom_field_two=cd_branded&amp;utm_custom_field_three=509985384702&amp;utm_custom_field_four=citizen%20developer&amp;utm_custom_field_five=p&amp;gclid=Cj0KCQjwIMaGBhD3ARIsAPvWd6imSK84vIYYK0Gclztwwjrr9dWyLDAelpuE9OYFG7muS57qlU1W4ssaAvF6EALw_wcB">https://www.pmi.org/citizen-developer?utm_job_number=159&amp;utm_region_name=europe&amp;utm_funnel_stage=customer_acquisition&amp;utm_marketing_channel=paid_media&amp;utm_marketing_subchannel=search_ppc_nonbranded&amp;utm_start_date=03252021&amp;utm_end_date=12122030&amp;utm_source=google&amp;utm_custom_field_one=citizen_developer_europe&amp;utm_custom_field_two=cd_branded&amp;utm_custom_field_three=509985384702&amp;utm_custom_field_four=citizen%20developer&amp;utm_custom_field_five=p&amp;gclid=Cj0KCQjwIMaGBhD3ARIsAPvWd6imSK84vIYYK0Gclztwwjrr9dWyLDAelpuE9OYFG7muS57qlU1W4ssaAvF6EALw_wcB</a></p>
<p>How To Harness Citizen Developers To Expand Your AD&amp;D Capacity</p>	<p>For Application Development &amp; Delivery Professionals.</p> <p>With the right tools and governance, nonprofessional developers can contribute to your software strategy.</p> <p>April 19, 2017.</p>	<p><a href="https://www.forrester.com/report/How+To+Harness+Citizen+Developers+To+Expand+Your+ADD+Capacity/-/E-RES135701#">https://www.forrester.com/report/How+To+Harness+Citizen+Developers+To+Expand+Your+ADD+Capacity/-/E-RES135701#</a></p>
<p>SalesForce White Paper</p>	<p>Attachment: How trends in low code, no code, and education are rebooting the workforce.</p>	<p><a href="#">the-new-frontier-of-software-development-salesforce-research.pdf</a></p>