Driving public organisations using information technology. An entrepreneurial challenge

Prowadzenie organizacji publicznych za pomocą technologii informatycznej. Wyzwanie dla przedsiębiorczości

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Abstract. Technology is giving to entrepreneurial challenges when it comes to reinventing democratic and open governments. Building a digital government helps to transform public organisations into institutions which encourage citizen participation in order to involve citizens in the work of government. The aim of this study is to explain how technology is leading to an entrepreneurial challenge in terms of reinventing and building an open and digital government. Technology in government helps to democratise public life and improve the quality of public service delivery while also strengthening the quality of life for citizens. Driving change in the public sector relies on sustaining the need for technology-driven public entrepreneurship by rethinking public organisations as technology-enabled platforms which contribute to engendering public and social value co-creation through sustaining the co-production of services for rediscovering the active role of citizens in the work of government.
Keywords: ICTs, management, administration, public organisation, entrepreneurship

Abstrakt. Technologia stawia przed przedsiębiorczością wyzwania wiążące się z ponownym ustaleniem demokratycznych i otwartych rządów. Budowanie rządu cyfrowego pomaga przekształcić organizacje publiczne w instytucje, które zachęcają obywateli do udziału w pracach rządu. Celem badania jest wyjaśnienie, w jaki sposób technologia prowadzi do wykorzystania przedsiębiorczości w zakresie ponownego wynalezienia oraz budowania otwartego i cyfrowego rządu. Technologia w rządzie przyczynia się do demokratyzacji życia publicznego i poprawy jakości świadczenia usług publicznych, a jednocześnie poprawia jakość życia obywateli. Pobudzanie zmian w sektorze publicznym opiera się na podtrzymywaniu potrzeby przedsiębiorczości publicznej opartej na technologii – poprzez ponowne przemyślenie organizacji publicznych jako platform bazujących na technologii, które przyczyniają się do wspólnego tworzenia wartości publicznej i społecznej poprzez utrzymanie koprodukcji usług w celu ponownego odkrycia aktywnej roli obywateli w pracach rządu.
Słowa kluczowe: technologie teleinformatyczne, zarządzanie, administracja, organizacja publiczna, przedsiębiorczość

Introduction

Public sector organisations deliver services that are produced within a public service system in the interest of a community. Managing public organisations relies on achieving social objectives (Lane, 2009). Moreover, creating public value depends on public managers and citizens interacting and working together by sharing tasks and responsibilities (Moore, 1995). Public organisations develop relationships with various stakeholders, users and citizens relying on trust and relational contracts as mechanisms of governance (Osborne, 2006). Public organisations serve the public interest promoting opportunities for developing partnerships and supporting collaboration by involving citizens and the community, while simultaneously managing public trust given by citizens through the democratic process (Vigoda, 2002).

A new public service is emerging as a key value that drives public organisations to contribute to value creation within and with the community by interacting with citizens (Denhardt, Denhardt, 2003), and building collaborative relationships with those citizens as partners involved in the work of government processes (Bryer, 2006; Vigoda, 2002).

Technology helps to redefine the relationships between people and public organisations in order to restore public trust. Information and communication technologies (ICTs) and the Internet help support public trust and interest by promoting an active citizenship and collaboration between citizens and government (Cordella, Bonina, 2012). The use of technology is emerging as a strategic means of introducing change, as well as designing and implementing public reform which lead to strategic, organisational and cultural change within public sector organisations. Introducing and implementing new technology in the work of government helps public institutions to gain legitimacy and maintain the organisational reputation as a set of beliefs about capacities, intentions and missions (Krause, Carpenter, 2012, p. 26).

The aim of this study is to explain how new technology gives rise to an entrepreneurial challenge when it comes to reinventing government proceedings by building an open and digital government. In the public sector, the entrepreneurship is to be considered as a means by which to exploit and discover opportunities for creating, maintaining and increasing public value and better serving the public interest, thus satisfying the needs of people, and to ensure a coherence with democratic values and principles of governance (Shane, Venkataraman, 2000; Bernier, Hafsi, 2007; Bellone, Goerl, 1992).

Governments and public institutions are embracing and introducing ICT, searching for ways to modernise public and democratic life and enhance quality of life for citizens, thereby improving quality for government operations and public service delivery. The present study relies on archival data drawn from the analysis and review of literature concerning the meaning of public entrepreneurship in government and the role of new technology in supporting the government's efforts in an attempt to build an open government, encouraging citizens to be involved

and to participate in the work of government. E-government is emerging as a new way of reforming the public sector and delivering high quality services, providing efficiency, and enhancing transparency, accountability and participation (Torres, Pina, Royo, 2005). Public organisations are changing by embracing a service- and citizen-driven view, following the civil society perspective and using networks in a dynamic context of public policy in order to improve the community and quality of life (Bovaird, Löffler, 2003, p. 21). Public organisations must be entrepreneurial, lean, capable of adjusting to change, able to improve productivity (Osborne, 1993). Reinventing public organisations as an entrepreneurial challenge relies on introducing new technology in government, thus leading to a new season of public sector reform as an opportunity to strengthen collaboration and to foster the involvement and engagement of citizens in order to drive governance and co-produce public services and cooperate so as to ensure a better quality of public services. ICT helps to rethink public entrepreneurship for reinventing public organisations which are open to democracy, dialogue, participation and collaboration by encouraging a proactive role of citizens in government. Information technology helps to make citizen-government interaction more efficient and effective, leading to a citizen-focused government by structuring collaboration networks and fostering citizen participation, thus leading to the building of new processes and structures of governance, thereby enhancing and valuing a set of features including transparency, accountability, and impartiality enabled by and embedded within the concept of governance (West, 2004; Fang, 2002; Qian, 2011; Bannister, Connolly, 2012).

The present study is theoretical and relies on a review of contributions that elucidate the use of technology in government as an entrepreneurial challenge and an issue of public entrepreneurship that helps drive public organisations to interact with citizens proceeding towards a digital government and public ecosystem. Digital government is emerging as an issue that it presents a public entrepreneurial challenge, a key word and value that helps promote digital development of public organisations connecting with citizens by embracing information technology. Referred journal articles were selected from *Google Scholar* as the main web source and database. The selected contributions are analysed and interpreted in a narrative synthesis in order to accommodate the differences between questions, research design and the context. They will also contribute to elucidating new perspectives and advancing theoretical frameworks on emerging issues (Denyer, Tranfield, 2006; Dixon-Woods et al., 2004).

The article is organised as follows. After the introduction, the understanding of the meaning of public entrepreneurship is elucidated. In the third paragraph, reinventing democratic governments is presented as an entrepreneurial challenge. In the fourth paragraph, reforming public organisations for public value through technology is also elucidated. The fifth paragraph describes how the advent of technology in government is leading to digital public ecosystems and governments. Finally, discussion and conclusions are outlined.

Understanding the meaning of public entrepreneurship when it comes to reinventing democratic governments

In the public sector, conceptualising the entrepreneurship helps to identify said entrepreneurship as a means by which to exploit and discover opportunities for creating, maintaining and increasing public value (Shane, Venkataraman, 2000, p. 218). Public institutions have to design an entrepreneurial action in order to better serve the public interest and satisfy the needs of people. The objective and meaning of public sector entrepreneurship is to create value for citizens, combining public/private resources for exploiting social opportunities for change, and to fulfil the public interest (Bernier, Hafsi, 2007). According to Hayter, Link and Scott (2018) public sector entrepreneurship refers to action that are innovative, that transform social and economic environments and that are characterised by uncertainty.

Public sector entrepreneurship implies that governments play a proactive role in steering society in order to improve quality of life by restructuring internal processes and developing new solutions which are adequate to satisfy the needs and demands of citizens (Morris, Jones, 1999). Entrepreneurship contributes to producing superior organisational performance, paying attention to corporate entrepreneurship in terms of process based on innovative activities for developing new and existing services, new technologies, administrative techniques and strategies by identifying the entrepreneurial process. This in turn leads to the production of better results for the organisation (Kearney, Hisrich, Roche, 2008). Public entrepreneurship relies on a proactive leadership for developing profiting public-private partnerships by promoting a direct involvement of the city, of the local residents and businesses in the community (Perlmutter, Cnaan, 1995). Five typologies of public entrepreneurs (professional politician, spin-off creator, business entrepreneur in politics, career-driven public officer, politically ambitious public officer) have different goals with regard to achieving certain rewards, following a précised time-horizon and exit strategy in terms of re-election at the higher level, job opportunity, prestige and responsibility in other organisations or internal promotion as election for a political post (Zerbinati, Souitaris, 2005).

Sustaining entrepreneurship in public sector organisations helps to improve government performance and build an effective and efficient public organisation able to meet the demands of citizens, produce high quality public services and achieve citizens' satisfaction and social legitimacy. Reforming public sector and public administration design and strategy can be interpreted as both an entrepreneurial project and challenge. Public entrepreneurship requires both a strategic view for helping organisations to change by performing activities and developing practices for ensuring a better quality of services for citizens (Zampetakis, Moustakis, 2007).

Government is to be transformed and reinvented. Reinventing government leads to better government and governance, which makes it possible to collectively

solve the problems. As Osborne and Gaebler (1992) have stated, an 'entrepreneurial government' is catalytic in that it steers; community-owned in that it empowers communities to face and solve problems; competitive in that it cuts costs and inefficiency; mission-driven in that it pursues effectively the goal of their employees; results-oriented in that it pays attention to measuring outcomes and rewarding success; customer-driven in that it gives resources directly to the customers; and decentralised as well as market-driven. Reinventing government implies rediscovering an entrepreneurial government as an efficient and effective institution responsive to customers, thus empowering clients and citizens (Goodsel, 1993). Three different dimensions of managerial entrepreneurship are identified: product-based in terms of emphasis on the quality of the final outcome produces; process-based in terms of improvements in administrative procedures and intra-organisational communications; behaviour based in terms of risk-taking, innovation in decision-making, orientation for organisational change (Moon, 1999, pp. 32-33). According to Moe and Gilmour (1995) the four principles of managerial entrepreneurship as assumed in the government management (reducing red tape, promoting customer satisfaction, empowerment of employees, sustaining cost-efficient performance) and proposed in Gore's report on the National Performance Review (1993) are leading to a clash between the legal and business cultures. Governing public organisations in an entrepreneurial way is the opposite of the bureaucratic model, the latter of which is seen as unfit and inefficient for managing the dynamics of the marketplace, information age and the knowledge based-economy; this also implies that individuals acquire specific entrepreneurial skills, styles and sensibilities. Thereby, introducing entrepreneurial principles in public organisations takes the risk of undermining some principles of public provision as equity. The adoption of an 'enterprise form' to all forms of conduct brings about the risk of making public organisations incapable of serving institutions to serve public mission and identity (Du Gay, 1996, pp. 164-167). Public entrepreneurship serves to support an administrative responsibility and maintain a coherence with the democratic values of the organisation (Bellone, Goerl, 1992). Thus, sustaining an entrepreneurial management helps to ensure a democratic governance in terms of citizenship and civic engagement. Following the new public service, reinventing government supports active citizenship and collaboration between citizens and government for public value creation, leading administrators as entrepreneurs to privileged responsiveness and democratic accountability in policy choices (DeLeon, Denhardt, 2000, pp. 94-96). Government institutions are agents of the sovereign under public law, and have legal and political accountability (Moe, Gilmour, 1995, pp. 142-143). Sustaining a neo-managerial view of entrepreneurship creates the risk of disconnecting from legal values and embedded practices, thus conflicting with constitutional values concerning fairness, justice, representation and participation (Terry, 1998, pp. 196-198).

Reforming public organisations for public value through technology

Within knowledge-based societies, citizens, businesses and governments contribute to public value and knowledge creation. Today, the emergence of technological innovation in government is becoming a relevant theme and opportunity for relaunching the political relevance of public administration within society (Hudson, 1999). Driving partnerships helps support a transformational approach to service improvement (Entwistle, Martin, 2005).

Sustaining the introduction and implementation of technology in government helps processes of modernisation and reform by empowering citizens, businesses and other stakeholders (Gil-Garcia, Zhang, Martinez-Moyano, 2007). Technology has made possible the access to the policy process as a result of dialogue and shared values. Public institutions proceed towards sustainability as a dynamic process and ongoing dialogue of values on general issues (Larsson, Grönlund, 2016), and the principle of governance to develop a democratic society (Fiorino, 2010). Policy development relies on collaborative management and dialogue with citizens, as well as citizen engagement as a source for administrative action (Cooper, Bryer, 2006). Public institutions are using ICT with increasing frequency, so as to involve citizens in policy-making by enhancing transparency, openness, impartiality, equity and fairness of government. Public organisations develop a dynamic and democratic interaction between government and citizens, thus driving transparency and participation, accountability and meaningful citizen engagement (Bannister, Connolly, 2012; Panagiotopulos et al., 2012).

A new wave and season of public management reform relies on the potential driven by introduction, adoption and use of ICT. Electronic government services seem to drive institutional transformation by advancing relationships with stakeholders in order to create sustainable shared values through improved e-services provision (Osman et al., 2019). ICT contributes to empowering social and political interaction between public institutions and citizens, thus driving government processes towards collaboration and cooperation. Public sector organisations develop content-oriented and user-oriented technological infrastructures in order to drive citizens to use online services and contribute to the co-production of value (Reinslau, 2006). Promoting digital public service innovation requires new government capabilities and relies on context-aware and context-smart services delivery (Bertot, Estevez, Janowski, 2016, p. 220; Castelnovo, Sorrentino, 2018). Digital transformation helps improve online government services in order to contribute to better quality of life (Scupola, 2019). The adoption of technology in the public sector helps to engender innovation in government and to democratise the relationship between public organisations and citizens. Technology in public administration refers to the concepts of e-government and e-governance as issues of

public management reform agenda and cultural change for creating and maintaining public value. According to the OECD (2014) e-government relies on using ICTs and the Internet to achieve better government to contribute to public value in terms of justice, fairness, efficiency and effectiveness. E-government concerns the design of infrastructure driven and enabled by technology and institutionally-embedded communication systems. E-government refers to the use of information technology to deliver government information and service online as to enable and improve the efficiency of government services provision (West, 2004, p. 16). E-governance pertains to the use of ICTs driving government to interact democratically with citizens by increasingly promoting meaningful citizen engagement. E-governance objectives concern: a policy framework; enhanced public services; high quality and cost-effective government operations; citizen engagement in democratic processes; administrative and institutional reforms (Dawes, 2008, pp. 586-587). E-governance is the performance of the government in ensuring the process of service delivery in terms of the application of ICT to government processes for improving accountability, responsiveness and transparency (Qian, 2010). ICT permits the construction of new governance structures bridging communities, service providers and policy makers, while it relies on citizen participation and engagement for making public policies (Al-Sudairy, Vasista, 2012). ICT makes it possible to alter or create new governance structures or processes reifying ideas or issues in normative governance as a set of values related to transparency, accountability and impartiality that governance would enable (Bannister, Connolly, 2012). ICT offers an opportunity to transform the government and improve the quality of government services by increasing productivity and reducing costs while also providing a better quality of services (Gil-Garcìa, Pardo, 2005, p. 188). ICT is giving rise to a digital-era-governance (reintegration, re-engineering, needs-based reorganisation, agile government and digitisation processes, as well as disintermediation and co-production) (Dunleavy et al., 2005, p. 467). In a new digital era, public organisations achieve better government providing a clear leadership, supporting open and transparent government, strengthening cross-government business capability, and improving operational ICT management (Lips, 2012, p. 244). E-government contributes to enhancing the perception of responsiveness of public administration, so as to reinforce process--based trust by improving interaction with citizens (Tolbert, Mossberger, 2006). The Internet has improved the ability of citizens to actively interact with government to obtain information. E-government has the potential for leading to e-citizens working for government and developing trust in government (Reddick, 2005). The transformational potential of e-government relies on providing services which are citizen--centred, as well as access to information as a key public resource of government (Brown, 2005, pp. 247-248) and building an enduring relationship between citizens, government and business by providing government information as to improve quality of services and foster citizen participation in democratic processes (Fang, 2002).

Technology-enabled reforms lead to the transformation of public sector organisations as responsive institutions creating and delivering the expected value for citizens and sustaining e-government initiatives in order to serve democratic principles of equity, impartiality and fairness (Cordella, Bonina, 2007, pp. 272-273).

Towards digital public ecosystems and governments

Technology helps public organisations to develop an open government and modernise core processes by managing knowledge and information. Digital technology entrepreneurship in government relies on technology and services (Giones, Brem, 2017). Introducing information technology in the government helps drive change and transform public administration to support public trust and contrast the decline of trust in government (Bannister, Connolly, 2011, p. 144). The advent of new technology and e-government initiatives emerges as a new way of reforming the public sector and offer the promise of delivering high quality services, providing efficiency and reshaping governance by enhancing transparency, accountability and participation (Torres, Pina, Royo, 2005).

According to the OECD (2014) «digital Government refers to the use of digital technologies, as an integrated part of governments' modernisation strategies, to create public value. It relies on a digital government ecosystem comprised of government actors, non-governmental organisations, businesses, citizens' associations and individuals which supports the production of and access to data, services and content through interactions with the government» (OECD, 2014, p. 6). «Digital technologies refer to ICTs, including the Internet, mobile technologies and devices, as well as data analytics used to improve the generation, collection, exchange, aggregation, combination, analysis, access, searchability and presentation of digital content, including for the development of services and apps» (OECD, 2014, p. 6).

Successful digital transformation of public administration relies on a complete adoption and use of digital transformation solutions by citizens (Datta, Walker, Amarilli, 2020, pp. 67-68). Technology enables the development of successful digital government relying on a collaborative approach (Dawes, Pardo, 2002, p. 271). The future of public services and processes depends on building digital platforms and spaces. Smart technology helps public value creation and supports the development of open and collaborative innovation processes for encouraging transformative practices in the public sector (Criado, Gil Garcia, 2019, p. 446). Promoting digital and open government aids in strengthening transformational aspects related to citizen participation and collaboration (Luna-Reyes, Gil-Garcia, 2014). Developing an open government platform helps drive service innovation and cultivate the digital ecosystem (Bonina, Eaton, 2020, p. 12). The future of public services delivery and production will depend on governments being able to create

Internet-enabled and digital platforms proceeding beyond principles and criteria driven by traditional and already experimented with public management doctrines (Fishenden, Thompson, 2013, p. 16). Governments provide a platform of economic and social innovation by developing information technology (Harrison, Pardo, Cook, 2012, p. 905). Digital platforms enable public sector transformation and strategy (Senyo, Effah, Osabutey, 2021).

According to an open government ecosystem perspective government organisations tend to play a central role within networked systems in order to achieve some results in terms of innovation and good government (Harrison, Pardo, Cook, 2012, p. 907) so as to rise to the challenge of being leader in building new institutions of governance because digital technology, as a user-friendly tools and social networking is leading to a greater democratisation within society. Authority and legitimacy of government and public policy rely on interactive democracy and imply that policy-makers have to ensure a convincing relationship between citizen input and policy outcomes by providing a trusted public space for participation and engagement in policy deliberation. Building policy relies on combining expertise and resources emerging in the market and civil society (Tapscott, Williams, Herman 2008, pp. 5-6). Moreover, building an open government ecosystem relies on public management capable of recognising and understanding the network of interdependencies and interactions existing among the components of the system. Open government tends to emerge as a positive goal in the interest of government and for society as a guiding norm for public values such as accessibility, transparency and citizen engagement (Nam, 2012, pp. 364-365).

Building an open and digital government by embracing ICTs relies on transparency, participation and collaboration (Chun et al., 2010, p. 5). As an information and services provision entity, government tends to become a participatory government involving citizens and other organisations as partners in information creation and service enhancement. Government 2.0 refers to the government institution acting to serve as mechanism for producing a collective action by using technology in order to better solve collective problems by constructing a participatory government which engages citizens in the business of government, promoting collaboration with citizens in the design of government programmes (O'Reilly, 2010, p. 14). Government 2.0 implies a new vision and perspective for transforming government as a 'citizen-centric' institution into a delivery service oriented around promoting collaboration among various stakeholders (Tapscott, Williams, Herman, 2008). Governments embracing new digital and emerging technologies are creating and encouraging innovation by transforming service delivery and becoming smarter institutions. Governments are considered as smart institutions if they employ technologies and embracing innovation for performing the activities of governing (Gil-Garcia, Helbig, Ojo, 2014, pp. 11-12). Web 2.0 technologies, including blogs, wiki, social networking, hubs, web-based communication modes, video-casting and sharing, audio-sharing, virtual worlds,

and micro-blogs, concern a collection of social media through which individuals can actively participate in creating, organising, sharing and commenting on Web content and forming a social network by interacting and linking to each other (Dixon, 2010, p. 423). Web 2.0 offers new opportunities for driving e-government towards integration and participation, so as to integrate knowledge and support government services leading to active engagement of citizens in government for strengthening and enhancing the participation of citizens (Dixon, 2010, pp. 444-445). Government 2.0 enables a 'citizen-centred' transparency calling for the engaging and sourcing of the citizenry for policy innovation, thus encouraging collaboration between citizens and government and among citizens (Nam, 2012, pp. 17-18).

The advent of digital technology helps to build a government 2.0 and identify certain characteristics that make it possible to qualify government as a smart institution in front of the citizens: integration in terms of information sharing for better communication, response and coordination; innovation as a new way of delivering services and conducting operations; evidence-based decision making based on data-driven decisions, and intensive use of data enable governments to make more informed decisions and improve the effectiveness of public policies and programmes; citizen centricity implies that government tends to use ICTs to satisfy citizens' needs providing personalised information and services; the use of digital technologies helps the sustainability in terms of ecological implications of the development; governments tend to promote a creative environment encouraging creativity for smart citizens; effectiveness, efficiency, equality, entrepreneurialism, citizen engagement, and resiliency. Smart government initiatives including citizens, private companies and not-profit organisations rely on government and non--government actors developing smart initiatives designed to improve quality of life for people and communities (Gil-Garcia, Zhang, Puron-Cid, 2016, pp. 526-530).

Governments design and implement digital technology for: ensuring greater transparency, openness and inclusiveness of government processes and operations; encouraging engagement and participation in policy-making and in service design and delivery; creating a data-driven culture in the public sector; ensuring a coherent use of digital technology across policy areas and levels of government by integrating digital government strategies into all public administration reforms, and strengthening international co-operation with other government to better serve citizens and businesses as to maximise the benefits emerging from early knowledge sharing and co-ordination of digital strategies internationally (OECD, 2014). New technology helps to support active co-production, empowering citizens as responsible partners in the delivery of public services. Technology helps develop a networked and community/citizen-centred co-production which emphasises the interaction of government agencies and citizens as co-producers (Dunleavy et al., 2005, p. 487). The Internet helps strengthen collaboration by empowering citizens in terms of productive capabilities (Linders, 2012, pp. 451-452).

Conclusions

Today, reinventing public organisations relies on introducing technology in government and building an open and inclusive governance where people, citizens, businesses, associations, and governments follow shared values and common visions coherently with democratic ideals and values for sustainable development, as well as social and economic growth. The Internet and ICTs seem to offer new opportunities for continuity in ensuring efficiency and effectiveness and more advancements on the side of constructing new spaces and places of governance that promote sustainable modes of conceiving public and democratic life. ICTs drive a new season and renewal in the relationships between government, public administration and citizens. Technology contributes to the reinvention of public organisations as open spaces and communities which contribute to providing a better quality of public services. Technology also drives public organisations and people towards an active co-production empowering citizens as responsible partners in the delivery of public services, and supporting a networked co-production coherently with a community/citizen-centred approach which fosters citizens-government collaboration for value and knowledge value creation.

Governments are rethinking how to drive a fundamental and effective change regarding the way to use ICTs in an information and digital era. The Internet and ICTs contribute to enhancing democratic processes, thus opening up new spaces of governance in the transition to digital-driven government; to make government easier for businesses and individuals to deal with; to enable government to offer services and information through new Internet and social media; to improve communication between different parts of government. Public organisations serve the public interest as responsive institutions by embracing ICTs for connecting with citizens and sustaining public trust between public institutions and citizens by improving openness, transparency, governmental legitimacy and accountability. Rethinking public entrepreneurship relies on facing the entrepreneurial challenge of reforming public institutions in order to drive strategic and organisational change. The meaning of public entrepreneurship relies on building knowledge-oriented public institutions as technology-enabled platforms for sustaining public and social value co-creation and co-production in order to support cultural change and innovation. ICTs help to rethink the role of public sector organisations within society and communities. The advent of technology helps public organisations and social communities to rediscover the importance of contributing to public value and belonging to a community. Technologies drive modernisation of public sector leading public organisations to build a permanent culture of transparency and openness encouraging citizens to participate in public affairs, interact and engage with public administration.

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