Til Borgarráðs

Ráðhúsi Reykjavíkur

Efni: Svar við fyrirspurn borgarráðsfulltrúa Sjálfstæðisflokksins um innvistingu verkefnisins stafræn umbreyting og sundurliðun verkþátta - R21100233.

Vísað er til bréfs, dagsett 14. október 2021, þar sem óskað er eftir svörum frá Þjónustu- og nýsköpunarsviði um upplýsingar er varða innvistun verkefnisins stafræn umbreyting.

F.h. þjónustu- og nýsköpunarsviðs

Óskar J. Sandholt
sviðsstjóri Þjónustu- og nýsköpunarsviðs

Meðfylgjandi er svar við fyrirspurn Sjálfstæðisflokksins ÞON21110089, Gartner: Accelerate Digital for Future-Ready Government - Frameworks for composable tech, empowered citizens and the future of work, Harvard Business Review: Digital Transformation Is Not About Technology, Infrastructure Services Sourcing Strategy: Practical Principles for Dynamic Insourcing Versus Outsourcing, höf. Claudio Da Rold, Vikas Bhardwaj, Guido Repaci, Key Considerations When Insourcing After Outsourcing or When Fulfilling New IT Demands, höf. Helen Huntley, Insourcing vs. Outsourcing: From Struggle to Strategy, höf. Cassio Dreyfuss, Lorrie Scardino., Reuters Insources Software Development Offshore, höf. Dion Wiggins., Stop Outsourcing and Begin Disciplined Multisourcing, höf. Linda R. Cohen, Allie Young., Digital Government in Action - What's Working and Who Is Doing It Well, höf. Dean Lacheca., Digital Transformation Requires a Program Office, höf. Joanne Kopcho og Sarah Davies., End the Confusion About Who Is Accountable for Digital Government, höf. John Kost og Stafræn stefna um þjónustu hins opinbera.

SVAR

Viðtakandi: Borgarráð.
Sendandi: Óskar J. Sandholt, sviðsstjóri Þjónustu- og nýsköpunarsviðs.

Efni: Svar við fyrirspurn borgarráðsfulltrúa Sjálfstæðisflokksins um innvistingu verkefnisins stafræn umbreyting og sundurliðun verkþátta - R21100233.

Á fundi borgarráðs þann 14. október 2021, var lögð fram svohljóðandi fyrirspurn fulltrúa Sjálfstæðisflokksins:

> *Óskað er eftir því að fá eftirfarandi gögn: 1) Óskað er eftir því að fá allar þær greiningar sem hafa verið gerðar varðandi fjárfestingarverkefnið „Stafræn Umbreyting" og lágu til grundvallar ákvörðun um innvistingu í stað þess að bjóða verkið út í heild. 2) Óskað er eftir að fá lista yfir ráðgjafa innlenda sem erlenda sem fullyrt hefur verið að voru til ráðgjafar sem leiddu til þeirrar ákvörðunar að innvista verkþáttum. 3) Óskað er eftir því að fá sundurliðun á þeim liðum sem verða boðnir út á árinu 2021, en fullyrt hefur verið að 2,7 milljarðar fari í innkaup og útboð af verkefninu „Stafræn Umbreyting". 4) Þá er óskað eftir sundurliðun verkþátta á þriggja ára tímabilinu, en fullyrt hefur verið að meira en 70% verði boðið út af þeim 10 milljörðum sem búið er að ákveða að eytt verði í verkið „Stafræn Umbreyting".*

Fyrirspurnin var send Þjónustu- og nýsköpunarsviði til umsagnar með bréfi dagsettu þann 14. október 2021.

Til útskýringar:

Í upphafi er vert að halda til haga að hugtakið Stafræn umbreyting (e. digital transformation) er nokkurra ára gamalt og felur í sér samansafn aðgerða á ákveðnu sviði. Stafræn umbreyting er notað yfir það sem gerist þegar stafræn tækni hvers konar er notuð sem tól til að umbreyta eða búa til nýja ferla (e. business processes), breyta menningu og upplifun notenda til að mæta nýjum og breyttum þörfum og væntingum þeirra sem og markaðarins. Innan hins opinbera ná aðgerðirnar meðal annars yfir eftirfarandi áherslur sem almennt eru viðteknar. Þær eru meðal annars er að finna í stafrænni stefnu íslenska ríkisins sem gefin var út í júlí 2021:

· Nútímavæðing þjónustu við íbúa byggð á notendamiðaðri nálgun
· Sjálfvirknivæðing ákvarðanatöku með aukinni gervigreind
· Nútímavæðing upplýsingatækniinnviða með öryggi og sveigjanleika að leiðarljósi
· Færsla á búnaði og gögnum borgarinnar úr tölvuskápum í ský
· Grunnur lagður að samþættingu ólíkra gagnagrunna, hugbúnaðar og kerfa
· Stafræn gögn nútímavædd í vöruhúsi og m.a. gerð aðgengileg almenningi
· Stafrænt læsi og inngilding tryggð

- Staðinn vörður um stafræni réttindi, persónuvernd og siðferði
- Uppbygging verkefnamiðaðs starfsumhverfis og áhersla á Agile verklag í starfseminni.
- Uppfærsla á stafrænni hæfni og færni starfsfólks og stjórnenda
- Nýting stafræna innviða til aukins þátttökulýðræðis

Rifja ber upp að fjárfestingarverkefnið sem hér um ræðir og gjarnan er nefnt einu nafni „stafræn umbreyting" samanstendur af sex verkefnaklösum sem eru innbyrðis ólíkir þó að allir snúi þeir að fjárfestingu í tæknilegum og stafrænum innviðum ásamt nútímavæðingu þjónustu og verkferla borgarinnar út frá forsendum notendamiðaðrar hönnunar. Fela klasarnir og verkefni innan þeirra að auki í sér þær áherslur sem hér er getið að ofan. Þetta er vert að hafa í huga þar sem með fjárfestingarverkefninu stafræn umbreyting Reykjavíkur er þannig verið að vísa til mjög umfangsmikils safns verkefna af oft ólíkum toga sem saman munu umbreyta aðferðum borgarinnar við veitingu hvers kyns innri og ytri þjónustu, sjálfvirknivæða marga ferla og flýta fyrir afgreiðslu og ákvarðanatöku. Á sama tíma nær stafræn umbreyting borgarinnar yfir breytingu á allri þjónustu hennar ásamt mikilli endurnýjun í upplýsingatæknirekstri. Hvað varðar breytingu á ferlum í starfsemi borgarinnar er, eins og áður hefur verið útskýrt, horft á heildarmynd hvers ferils og hvaða ávinning breyting á honum muni færa notendum og starfsemi Reykjavíkurborgar.

Af þessu leiðir að það er ekki til ein aðferð til að framkvæma fjárfestingarverkefnið heldur þarf að horfa til hvers hluta þess og meta hvernig best og hagkvæmast er að leysa hvern þátt þess. Það er því ekki þannig að unnt sé að útvista verkefninu í heild líkt og stundum er haldið fram þó vissulega sé stærstum hluta þess a.m.k. út frá kostnaði úthýst. Þá er rétt að halda því til haga að hvorki ríkið né Samband sveitarfélaga eru að nálgast stafræna umbreytingu á þann heildstæða hátt sem Reykjavíkurborg gerir og mikilvægt er að hafa það í huga þegar aðferðafræði er borin saman. Aðferðin sem borgin notar er miklu tengdari stafrænni umbreytingu hjá stórum þjónustufyrirtækjum á borð við banka, tryggingafélög eða önnur fyrirtæki sem byggja mikið af afkomu sinni á þjónustu við notendur.

Svar:

Við fjárhagsáætlunargerð vegna áranna 2021-2026 var tekið til hliðar fjármagn í stafræna umbreytingu í tengslum við Græna planið og viðspyrnuáætlun borgarinnar til að bregðast við þeirri kreppu sem fyrirsjáanlegt var árið 2020 að myndi fylgja heimsfaraldri Covid-19. Sérstök áhersla var lögð á árin 2021-2023 og í raun var verkefnum sem ætlað var að leysa á um 10 ára tímabili þjappað inn á þessi þrjú ár. Varla þarf að taka fram að slík uppskölun mun kalla á tímabundna fjölgun starfsmanna í hvaða skipulagsheild sem er og ráðast myndi í slíka vegferð. Það er síðan þannig að sökum eðlis verkefnanna hefur verið horfið frá stífri langtímaáætlunargerð (e. waterfall) þar sem niðurstaða eða afurð fæst ekki fyrr en við lok verkefnis og því er frekar stuðst við viðurkennda aðferð við verkefnastjórnun sem kölluð er Agile á enskri tungu. Í þeirri aðferðarfræði er leitast við að gera styttri rammaáætlanir sem miða að því að koma vöru eða afurð sem fyrst í starfsemi. Af þessu leiðir t.d. að sífellt er endurskoðað hverju er hagkvæmt að úthýsa og hverju innhýsa en aðstæður á markaði auk eðlis verkefna ráða þar mestu hverju sinni. Þá er einnig ljóst að við lok átaksverkefnisins árið 2023 verður nauðsynlegt að líta til þess hvernig haga skuli stafrænum rekstri og framþróun borgarinnar til lengri framtíðar.

Til frekari upprifjunar er eftirfarandi stutt samantekt um innhald og áætlað fjármagn í hvern verkefnaklasa en að öðru leyti er t.d. vísað til gagna vegna kynninga í borgarráði á fjárhagsáætlun ÞON vegna áranna 2021 og 2022:

1. **Stafræn umbreyting - Rannsóknir og nýsköpun. Áætlað fjármagn samtals 34 mkr. á árunum 2021-2023.**
   Verkefni í þessum klasa snúast um sókn í rannsóknarsjóði Evrópusambandsins en þangað var áætlað að leita stuðnings við innleiðingu margra af markmiðum Græna plansins. Í þessum verkefnaklasa var við undirbúning fyrst og fremst gert ráð fyrir aðkeyptri þjónustu. Hér voru meginverkefnin tvö. Annars vegar stuðningur við umsókn borgarinnar að komast í hóp kolefnishlutlausra borga Evrópu og hins vegar þátttaka í verkefni nokkurra borga í Evrópu um að koma á fót nýsköpunarhraðli að fyrirmynd Amsterdamborgar (svokallað Start-up in Residence). Þegar þetta svar er ritað hefur engu fjármagni verið ráðstafað í þessi verkefni af fjárfestingaráætlun. Annars vegar vegna þess að rannsóknarþjónusta fluttist frá Þjónustu- og nýsköpunarsviði (ÞON) til skrifstofu borgarstjóra og borgarritara á árinu 2021 og hins vegar vegna þess að mjög lítill kostnaður, utan vinnu fasts starfsfólks ÞON, féll til við þátttöku í undirbúningi Start-up in Residence (fólst í umsókn nokkurra borga í Horizon 2020) og hann var þess eðlis að hann var greiddur úr rekstrarramma sviðsins. Að auki hlaut umsóknin ekki brautargöngu innan rannsóknaráætlunar Evrópusambandsins og því var ákveðið að leggja verkefnið til hliðar.

2. **Stafræn umbreyting - rafvæðing ferla - Áætlað fjármagn samtals 2.710 mkr. á árunum 2021-2023.**
   Verkefni í þessum klasa snúa fyrst og fremst að umbreytingu á innri starfsemi borgarinnar, þjónustuveitingu hennar og ferlum því tengdu. Hér er um að ræða það sem venjulega er nefnt viðskiptaþróun hjá fyrirtækjum en hér er að finna flest þau verkefni sem ákveðið var að innhýsa. Stærri fyrirtæki á markaði úthýsa almennt ekki viðskiptaþróun og það sama má segja að gildi fyrir opinberar stofnanir. Það kann að vera hentugt að ákveðnum verkefnum sem til verða við viðskiptaþróun sé úthýst en þróunin sem slík er svo nátengd kjarnastarfsemi skipulagsheilda að nauðsynlegt er að byggja upp þessa þekkingu innan þeirra. Annað er bæði of kostnaðarsamt og felur í sér áhættu, bæði fjárhagslega og þekkingarlega. Þau verkefni sem tilheyra þessum verkefnaklasa eru þannig fyrst og fremst innri vinna við umbreytingu á ferlum og þjónustuveitingu sviða. Hér undir eru starfrænir leiðtogar sviða ásamt innri greiningarvinnu, stefnumörkun og umbreytingu. Auk þess eru hér skilgreind verkefni sem verða boðin út að hluta eða heild eins og t.d Gagnsjá, endurskoðaðar lýðræðisgáttir og vefþróun.

3. **Stafræn umbreyting - Hugbúnaður og ný upplýsingakerfi - Áætlað fjármagn samtals 3.246 mkr. á árunum 2021-2023.**
   Verkefni í þessum klasa snúast um endurnýjun og þróun hugbúnaðarsafns borgarinnar. Í því felst m.a. að útfasa upplýsingakerfum sem kölluð eru „legacy" kerfi en innleiða þess í stað kerfi með forritaskilum sem mæta þeim kröfum sem gerðar eru í dag um samskipti á milli kerfa (e. Composable IT). Nánast öllum verkefnum hér, utan innra utanumhalds og samræmingar er annað hvort úthýst eða að þau snúast um innkaup á hugbúnaði. Verkefnastofa sem svipar t.d. til Stafræns Íslands heldur þannig utan um innri hluta verkefnanna. Samþætting er að mestu unnin innan húss en hluti vinnunnar er einnig keyptur inn. Hér undir er t.d. innleiðing O365, útfösun símkerfa og umbreyting á innritunarkerfum.

4. **Stafræn umbreyting - Upplýsinga- og gagnastýring - Áætlað fjármagn samtals 384 mkr. á árunum 2021-2023.**

Verkefni í þessum klasa snúast annars vegar um innleiðingu á fyrsta gagnavöruhúsi borgarinnar og hugbúnaði er því tengist og hins vegar innleiðingu nýs skjala- og upplýsingastjórnunarkerfis. Borgin hefur ekki búið yfir gagnainnviðum áður og því er hér verið að nútímavæða mikið af innri vinnslu í tengslum við gögn. Verið er að byggja upp innri þekkingu á meðferð gagna og skjala með það fyrir augum að borgin geti í auknum mæli innleitt sjálfvirkni í kringum meðferð gagna og skjala. Einnig er verið að nútímavæða meðferð skjala og koma á rafrænum skilum. Í þessum klasa er verkefnum ýmist innvistað eða keypt að.

5. **Stafræn umbreyting - Hönnun og umbreyting þjónustu - Áætlað fjármagn samtals 135 mkr. á árunum 2021-2023.**

Í þessum verkefnaklasa er fyrst og fremst eitt verkefni er snýr að því að koma öllum bygginga- og lagnateikningum sem nú eru eingöngu til á pappír yfir á stafrænt form og auk þess að búa til nýtt þjónustuviðmót. Nánast öllu verkefninu er úthýst utan verkefnastjórnunar.

6. **Stafræn umbreyting - Upplýsingatækniinnviðir og notendabúnaður - Áætlað fjármagn samtals 4.086,5 mkr. á árunum 2021-2023.**

Þessum umfangsmesta verkefnaklasa stafrænnar umbreytingar er að lang mestu leyti úthýst og þjónusta eða vörur aðkeyptar. Þessi verkefnaklasi snýst um upplýsingatækniinnviði og öryggi þeirra í stóru samhengi en verið er að endurnýja mikið af kjarnabúnaði s.s. þjóna, beina og skipta. Einnig er verið að úrelda kerfi og búnað sem stendur í vegi fyrir sjálfvirknivæðingu eða skapar mannaflafrek verkefni. Einnig eru hér umfangsmikil innkaup á notendabúnaði t.d. í tengslum við átak í tæknivæðingu skóla borgarinnar út frá markmiðum menntastefnu.

Óskað er eftir því að fá allar þær greiningar sem hafa verið gerðar varðandi fjárfestingarverkefnið „Stafræn Umbreyting" og lágu til grundvallar ákvörðun um innvistingu í stað þess að bjóða verkið út í heild.

Stafræn umbreyting borgarinnar hófst fyrir alvöru eftir samþykkt gildandi þjónustustefnu hennar og því hefur á Þjónustu- og nýsköpunarsviði og forvera þess, skrifstofu þjónustu og reksturs verið unnið að mótun, stefnumörkun og framkvæmd stafrænnar umbreytingar frá því seint á árinu 2016. Ljóst varð snemma að ekki var mikið af tilbúnum fyrirmyndum frá borgum eða stórum aðilum þar sem mismunandi staða, ástæður, aðstæður, tæknistig og viðskiptamódel, svo eitthvað sé nefnt, hefur áhrif á hvaða aðferðafræði er valin. Það er einnig svo að fáar ef nokkrar borgir hafa unnið að stafrænni umbreytingu eða nýsköpun í stjórnsýslu sem heildstæðu verkefni og því voru það nokkur tíðindi þegar Reykjavíkurborg stofnaði sérstakt svið um þjónustu og nýsköpun árið 2019. Sú vinna sem liggur að baki þeirri aðferðafræði sem Reykjavíkurborg notar við stafræna umbreytingu er umfangsmikil og byggir á miklu samráði, samtali og gagnaöflun en ekki endilega formlegum utanaðkomandi greiningum. Hér eftir fylgir listi yfir helstu samráðsfundi og úrval efnis sem liggur að baki þeirri aðferðafræði sem nú er stuðst við. Tekið skal fram að listinn er ekki tæmandi og nær ekki aftar en til ársins 2017 en segja má að frá þeim tíma hafi það verklag sem nú er að raungerast tekið að mótast. Einnig er sumt efni sem vísað er í þess eðlis að ekki er hægt að setja inn hlekk á það. Ástæður þess eru að hluti efnisins er höfundaréttarvarið á þann veg að það er óheimilt að birta það á opinberum vettvangi.[1]

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[1] Ath. að ef ekki er tilgreint sértækt efni í lista yfir fundi og viðtöl þá er umfjöllunarefnið almennara og tengist stafrænni umbreytingu og skipulagi mismunandi verkefna og verkefnastrauma í tengslum við hana sem og annan rekstur ÞON.

Fundir:

- Nóvember 2017 - Gartner Symposium.
- Nóvember 2017 - Web Summit
- Maí 2018 - Fundur með fulltrúum Arion banka og borgarritara um stafræna umbreytingu á þjónustu bankans.
- Ágúst 2018 - Vinnustofa með Rainmaking.io
- Nóvember 2018 - Gartner Symposium.
- Janúar til október 2019 - Stýrihópsfundir vegna breytingar á fjárhagsaðstoð.
- Janúar 2019 – Fundur með gov.uk, head of user centered policy design
- Mars 2019 – Service design in government - ráðstefna og vinnustofur í Edinborg
- Júní 2019 - Fundur með LSH.
- Júní 2019 – Aquia Engage í London, alþjóðleg Drupal ráðstefna og vinnustofur.
- Júlí 2019 - Fundur með Gartner.
- 25.-26. september 2019 - Samráðsfundir um stafræna umbreytingu hjá Cities Today Institute. Þáttökuborgir: Amsterdam, Dublin, Rotterdam, Prag, Birmingham, Rome, Almere, Glasgow, Athena, Riga, Gautaborg, Gdansk, Tampere, Las Palmas de Gran Canaria, Edinborg, Milanó, Lissabon, London, Leeds, Greenwich, Kiev, Bristol, Barcelona auk fulltrúa frá Cambridge háskóla.
- September 2019 - Þekkingarheimsókn til Kaupmannahafnar og Árósa með kjörnum fulltrúum
- Október 2019 - Gartner Symposium.
- Nóvember 2019 - Web Summit
- Nóvember 2019 - Vinnustofa með Gartner.
- Nóvember 2019 - Fundur með Arion banka.
- Nóvember 2019 - Fundur og heimsókn í Landsbankann.
- Desember 2019 - Fundir og vinnustofa með Gartner.
- Desember 2019 – Þekkingarheimsókn og þátttaka í Datalab í Amsterdam
- Janúar til febrúar 2020 - Vinnustofa með Gartner.
- Febrúar 2020 - Fundur með Per Maahr.
- Mars 2020 - Nordic CIO leadership Forum.
- Mars til apríl 2020 - Vinnustofa og ráðgjafaviðtöl með Gartner.
- Maí 2020 – Ráðgjafaviðtöl og vinnustofa með Gartner - Techbriefing on Cloud Decisions og Agile and Devops
- Maí 2020 - Fundur með LSH.
- Júní 2020 - Vinnustofa með Gartner.
- 25. júní 2020 - Samráðsfundir um stafræna umbreytingu hjá Cities Today Institute. Þáttökuborgir: Amsterdam, Dublin, Rotterdam, Prag, Birmingham, Rome, Almere, Glasgow, Athena, Riga, Gautaborg, Gdansk, Tampere, Las Palmas de Gran Canaria, Edinborg, Milanó, Lissabon, London, Leeds, Greenwich, Kiev, Bristol, Barcelona auk fulltrúa frá Cambridge háskóla.
- Júlí 2020 - Vinnustofa með Gartner.
- Júlí 2020 - Vinnustofa og ráðgjafaviðtöl með Gartner - Culture Hacking and Operating Model og Use 6 Tactics to Help Employees Navigate Change and Thrive in an Ambiguous World.
- September til október 2020 - Ráðgjafaviðtöl og vinnustofa með Gartner - Service Level Agreements on IT Services og Culture Hacking and Operating Model.
- Október 2020 - Fundur með Landsbankanum.
- Október 2020 - Fundur með Íslandsbanka.
- Október 2020 - Nordic CIO Virtual Summit.
- Október 2020 - Ráðgjafaviðtal með Gartner - Building Successful Transformation Teams.
- Nóvember 2020 - Gartner Virtual Symposium.

- Nóvember 2020 - janúar 2021 - Vinnustofur með Strategíu ráðgjöf vegna skipulags ÞON.
- Nóvember 2020 - Nordic CIO Virtual Summit
- Janúar 2021 - Ráðgjafaviðtal með Gartner - Our Journey, Ways of Working
- Janúar 2021 - Samráðsfundir um stafræna umbreytingu hjá Cities Today Institute. Þáttökuborgir: Amsterdam, Dublin, Rotterdam, Prag, Birmingham, Rome, Almere, Glasgow, Athena, Riga, Gautaborg, Gdansk, Tampere, Las Palmas de Gran Canaria, Edinborg, Milanó, Lissabon, London, Leeds, Greenwich, Kiev, Bristol, Barcelona auk fulltrúa frá Cambridge háskóla.
- Apríl 2021 - Vinnustofa með Gartner - Accelerate Upskilling to Accelerate Digital Business.
- Maí 2021- Samráðsfundir um stafræna umbreytingu hjá Cities Today Institute. Þátttökuborgir: Amsterdam, Dublin, Rotterdam, Prag, Birmingham, Rome, Almere, Glasgow, Athena, Riga, Gautaborg, Gdansk, Tampere, Las Palmas de Gran Canaria, Edinborg, Milanó, Lissabon, London, Leeds, Greenwich, Kiev, Bristol, Barcelona auk fulltrúa frá Cambridge háskóla.
- Maí 2021 - Vinnustofa með Gartner - Driving Employee Engagement and Productivity.
- Júní til ágúst 2021 – Ráðgjafaviðtöl og vinnustofur með Gartner - Collaboration Between The DevOps Team And The Software Development Team, Consequences for CoR Due to Listed Challenges og Fusion Teams - A New Model for Digital Delivery.
- September til október 2021 - Ráðgjafaviðtöl og vinnustofur með Gartner - Digital Execution Scorecard (DES), Key Benefits of Insourcing/in-house Software Development, Government or Smart Cities Insourcing of Software Development og System Administration and Technical Operations Setup.
- Október 2021 - Nordic CIO virtual summit
- Nóvember 2021 - Vinnustofur með Gartner vegna DES.
- Desember 2021 - Fundur borga víðsvegar um Evrópu á vegum Eurocities, en í samtökunum eru 200 borgir í 38 löndum, sem koma saman í umboði yfir 130 milljón íbúa.

Tveir stjórnendur ÞON sóttu nám hjá Harvard háskóla frá janúar 2020 til apríl 2021 sem nefndist *Leading Digital Innovation*. Helstu námsgreinar voru:

- Leading Digital Transformation.
- Assessing Digital Capabilities.
- Creating High Performing Teams.
- Leading Organizational Change.
- Managing Innovation through User Design.
- Digital Maturity Model.
- Becoming Effective Changemakers.
- Wardley Mapping.
- A Framework for Overseeing & Managing Investments in Technology.
- Privacy, Data and Digital Transformation.
- Contracting Government Technology to the Private Sector.
- Adaptive Leadership.

Fulltrúar frá eftirfarandi borgum tóku einnig þátt í náminu en stór þáttur þess var samvinna og samstarf þar sem mörg tækifæri gáfust til að deila reynslu og áformum:

- Amsterdam
- Aþena
- Bratislava
- Brussel
- Budapest
- Kaupmannahöfn
- Dublin
- Helsinki
- Ljubljana
- London
- Madrid
- Nicosia
- Prag
- Riga
- Sofia
- Stokkhólmur
- Tallin
- Vilnius
- Varsjá

Reykjavíkurborg
Þjónustu- og nýsköpunarsvið

Heimildir:

- https://www.bcg.com/publications/2021/accelerating-past-digital-journey-inflection-point
- https://www.bcg.com/publications/2021/five-strategies-for-adopting-a-platform-based-it-organization
- https://www.bcg.com/capabilities/digital-technology-data/overview
- https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/unlocking-success-in-digital-transformations
- https://www.bcg.com/publications/2021/public-sector-transformation
- https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/welcome-to-the-digital-factory-the-answer-to-how-to-scale-your-digital-transformation
- https://www.bcg.com/publications/2020/changing-business-environment-pushing-end-to-bureaucracy
- https://www.bcg.com/publications/2020/governments-navigate-uncertainty-emerge-stronger
- https://www.bcg.com/featured-insights/how-to/purpose-driven-business
- https://www.bcg.com/publications/2020/put-value-creation-at-the-center-of-your-transformation

Hjálagt:

- Gartner: Accelerate Digital for Future-Ready Government - Frameworks for composable tech, empowered citizens and the future of work.
- Harvard Business Review: Digital Transformation Is Not About Technology.

Ritrýndar greiningar frá Gartner:

- Infrastructure Services Sourcing Strategy: Practical Principles for Dynamic Insourcing Versus Outsourcing, höf. Claudio Da Rold, Vikas Bhardwaj, Guido Repaci
- Key Considerations When Insourcing After Outsourcing or When Fulfilling New IT Demands, höf. Helen Huntley.
- Insourcing vs. Outsourcing: From Struggle to Strategy, höf. Cassio Dreyfuss, Lorrie Scardino.
- Reuters Insources Software Development Offshore, höf. Dion Wiggins.
- Stop Outsourcing and Begin Disciplined Multisourcing, höf. Linda R. Cohen, Allie Young.
- Digital Government in Action - What's Working and Who Is Doing It Well, höf. Dean Lacheca.
- Digital Transformation Requires a Program Office, höf. Joanne Kopcho og Sarah Davies.
- End the Confusion About Who Is Accountable for Digital Government, höf. John Kost.

Óskað er eftir að fá lista yfir ráðgjafa innlenda sem erlenda sem fullyrt hefur verið að voru til ráðgjafar sem leiddu til þeirrar ákvörðunar að innvista verkþáttum.

Eins og komið hefur fram hér að framan hefur verið leitað til fjölmargra aðila varðandi ráðgjöf eða speglun og nokkrar aðferðir reyndar við stafræna umbreytingu. Þær ákvarðanir sem teknar hafa verið varðandi hvernig verkefnið er rekið innan Reykjavíkur eru Þjónustu- og nýsköpunarsviðs en þær byggja m.a. á þeim fundum og vinnustofum sem taldar eru upp hér að framan sem og þeim straumum og stefnum sem ráðandi eru á markaði varðandi framkvæmd þessara verkefna og endurspeglast m.a. í því lesefni sem talið er upp hér að framan.

En ákvarðanirnar byggja einnig á reynslu stjórnenda sviðsins og mati þeirra á því hvernig hægt er að ná árangri og hámarka virði fjármagns að teknu tilliti verkefnanna og þeirra aðstæðna er ríkja á Íslandi hverju sinni. Eftirfarandi er listi yfir þá helstu aðila sem starfað hafa með sviðinu og forvera þess og hafa haft áhrif á eða komið að mótun verklags við framkvæmd stafrænnar umbreytingar:

- Bloomberg Philantrophies
- Capacent ráðgjöf
- Cities Today Institute
- Gartner Group
- Harvard háskóli
- FutureGov
- Microsoft
- Rainmaking

- Strategía ráðgjöf
- Parallel ráðgjöf
- Syndis
- Origo
- Advania

Óskað er eftir því að fá sundurliðun á þeim liðum sem verða boðnir út á árinu 2021, en fullyrt hefur verið að 2,7 milljarðar fari í innkaup og útboð af verkefninu „Stafræn Umbreyting".

Samkvæmt 1. mgr. 23. gr. laga nr. 120/2016 um opinber innkaup skulu öll innkaup opinberra aðila á vörum og þjónustu yfir 15.500.000 kr. boðin út í samræmi við þau innkaupaferli sem nánar er kveðið á um í lögunum. Samkvæmt 14. gr. Innkaupareglna Reykjavíkurborgar skal gera verðfyrirspurn eða beita öðrum innkaupaferlum, þegar áætluð fjárhæð án virðisaukaskatts er á verðbilinu 5.000.000 – 15.500.000 kr. án vsk. vegna kaupa á vöru og þjónustu. Innkaup undir framangreindum viðmiðunarfjárhæðum skulu fara fram með gerð samanburðar, sbr. 6. mgr. 14. gr. Innkaupareglna Reykjavíkurborgar.

Stafræn umbreyting á fjárfestingaáætlun Reykjavíkurborgar skiptist í svokallaða klasa en þeir taka til: rafvæðingu ferla, hugbúnaðar og nýrra upplýsingakerfa, upplýsinga- og gagnastýringu,hönnun og umbreytingu þjónustu, og loks upplýsingatækniinnviða og notendabúnaðar. Eftirfarandi heimildir hafa verið sóttar til borgarráðs til að hefja undirbúning að innkaupum, eða útboði á þjónustu og búnaði, annað er í undirbúningi. Þegar þetta svar er skrifað eru fimm heimildir til viðbótar í vinnslu:

- Heimild til að hefja útboðsferli á rafrænu fræðslukerfi fyrir Reykjavíkurborg. ÞON20060017
- Heimild til að hefja útboðsferli á tölvubúnaði fyrir endanotendur í tölvuumhverfi Reykjavíkurborgar - ÞON21040025.
- Heimild til að hefja útboð og innleiðingu á alþjónustu á prentumhverfi fyrir alla starfstaði Reykjavíkurborgar. ÞON21050024
- Heimild til að hefja kaup og innleiðingu á kerfi til að halda utan um hugbúnaðarleyfi og búnað - ÞON21050027.
- Heimild til að hefja endurnýjun á netskápum og netskiptum - ÞON21050028.
- Heimild til að hefja innleiðingu á Microsoft Office 365 á alla starfstaði borgarinnar - ÞON21050029.
- Heimild til að hefja útboðsferli á úthýsingu tölvuvélasala í gagnaver - ÞON21050030.
- Heimild til að hefja allsherjar innleiðingu á fjarfundarbúnaði - ÞON21050031.

- Heimild til að fara í útboð og innleiðingu á nýju síma- og samskiptakerfi Reykjavíkurborgar - ÞON21050033.
- Heimild til að hefja undirbúning, innkaup og innleiðingu á öryggis- og aðgangskerfi stjórnsýsluhúsa - ÞON21050034.
- Heimild til að hefja útboðsferli á rafrænu starfsumsóknarkerfi fyrir Reykjavíkurborg - ÞON21010028.
- Heimild til að gangsetja stafræn þróunarteymi og hefja verkefni - ÞON21050021.
- Heimild til að hefja kaup, innleiðingu og þróun á gagnavinnslustöð - ÞON21050043.
- Heimild til að hefja umbætur á veflægu viðburðadagatali Reykjavíkurborgar - ÞON21050045.
- Heimild til að hefja kaup á smíði og uppsetningu á veflægu skipuriti fyrir vef Reykjavíkurborgar - ÞON21050046.
- Heimild til að hefja innkaup á gæða- og öryggiskerfi til að halda utan um og hafa eftirlit með heilsu vefsvæða borgarinnar - ÞON21050047.
- Heimild til að hefja uppsetningu á kerfiseiningum fyrir vélþýðingar og vinnu við yfirlestur - ÞON21050048.
- Heimild til að hefja undirbúning, innkaupaferli og innleiðingu fyrir innanhúsleiðarkort stjórnsýsluhúsa - ÞON21050049.
- Heimild til að hefja kaup á vinnu við viðhald og þróun á hönnunarkerfi Reykjavíkurborgar - ÞON21050044.
- Heimild til að hefja undirbúning og innkaup á nýjum innri innkaupa- og aðgangsvef - ÞON21060002.
- Heimild til að ráðstafa áætluðu fjármagni í innleiðingu á tölvum, til umráða fyrir alla unglinga á unglingastigi grunnskóla. Einnig öðrum búnaði fyrir börn og starfsfólk í leikskólum, grunnskólum og frístund - ÞON21090002.
- Heimild til að fara í útboð á verkefninu Átak í teikningaskönnun - ÞON21040006.
- Heimild til að hefja innkaup vegna endurnýjunar miðlægra innviða - ÞON21110053.
- Heimild til að hefja verkefnið vinnsluskrá persónuupplýsinga ÞON21100048

Þjónustu- og nýsköpunarsvið leitar stöðugt leiða til þess að gera innkaup hagkvæmari á sama tíma og gætt er jafnræðis, meðalhófs og gagnsæis. Sviðið er með tvo svokallaða „DPS samninga", þ.e. gagnvirk innkaupakerfi (e. Dynamic purchasing system - DPS), sbr. 41. gr. laga nr. 120/2016 sem er skilgreint sem: „[r]afrænt ferli við algeng innkaup sem mögulegt er að gera á almennum markaði þannig að kröfum kaupanda sé fullnægt, enda sé ferlið tímabundið og, meðan á því stendur, opið öllum fyrirtækjum sem uppfylla skilyrði fyrir þátttöku í kerfinu og lagt hafa fram kynningarboð í samræmi við skilmála.", sbr. 4. tl. 1. mgr. 2. gr. laga nr. 120/2016.

Fyrri samningurinn, sbr. „Útboð nr.1455 – DPS (Gagnvirkt innkaupakerfi) - þjónusta sérfræðinga vegna notendamiðaðrar hönnunar/þjónustuhönnunar" var auglýstur í september 2019. Innkaup innan samningsins fara fram með lokuðum útboðum. Þátttakendur eru nú sjö. Þrjú lokuð útboð hafa farið fram á grundvelli samningsins að fjárhæð samtals rúmlega 8,4 milljónir og má sjá yfirlit yfir útboðin í fylgiskjali 1. Seinni samningurinn, sbr. „Útboð nr. 14704 - Gagnvirkt innkaupakerfi um þjónustu sérfræðinga fyrir þjónustu- og nýsköpunarsvið Reykjavíkurborgar" var auglýstur í september 2020 og felur í sér fjórtán tegundir þjónustu, eða hluta. Þátttakendur eru nú 45. Innkaup fara fram annað hvort í gegnum tímakörfur, sem boðnar eru út í lokuðu útboði á 3-6 mánaða fresti, eða í gegnum lokuð útboð. Leið 1 hefur verið boðin út tvisvar og er áætlað að bjóða út í þriðja sinn í janúar. Nítján sinnum hefur þjónusta verið keypt á grundvelli leiðar 1, af tíu birgjum, samtals áætlað að fjárhæð rúmlega 77 milljónir króna. Þrjú lokuð farið fram samkvæmt leið 2, samtals að fjárhæð rúmlega 116 milljónir króna.

DPS ÞON nr. 14554 (þjónustuhönnun)			
Heiti	**Dags.**	**Seljandi**	**Upphæð**
Greining á þörfum vegna fyrirhugaðs útboðs á umsóknarkerfi fyrir MOS	febrúar 2021	Imperio ehf.	617.716
Greiningarvinna vegna styrkjagáttar	nóvember 2021	Imperio ehf.	4.284.000
Greiningarvinna vegna fyrirhugaðs útboðs á stafrænum lausnum	september 2021	Imperio ehf.	3.570.000

DPS ÞON nr. 14704			
Heiti	**Dags.**	**Seljandi**	**Upphæð***
LEIÐ 1			
Verkefnastofnstjóri innleiðingar á upplýsingastjórnunarkerfi Reykjavíkurborgar	febrúar 2021	Intenta	32.000.000
Kerfisstjórnun og vöktun	ágúst 2021	Þekking - Tristan hf.	79.718.400
Innleiðing - Tæknileg Framlínuþjónusta	júní 2021	Imperio ehf.	2.844.800
Uppbyggingar á þróunarferlum með DevOps aðferðum	júlí 2021	Origo	7.435.100
Viðhald á innri vef Reykjavíkurborgar	júlí 2021	SII sp. z o.o	313.100
Eitt hugbúnaðarteymi í hugbúnaðarþróun á lausn fyrir nemendainnskráningu	október 2021	Codebear	7.400.000
Aðstoða gagnaþjónustu við að hanna og uppfæra gagnaarkitektúr	október 2021	GT hugbúnaðarráðgjöf	8.500.000
Kortlagning UT kerfa Reykjavíkurborgar	október 2021	Imperio ehf.	953.880

Útboðsskrif á miðlægu aðgangsstýrðu prentútboði	október 2021	Viki ehf.	3.200.000
Útboðsskrif á úthýsingu Vélasala Reykjavíkurborgar í gagnaver	október 2021	Viki ehf.	3.200.000
Microsoft 365 innleiðing – innri markaðssetning	október 2021	HN Markaðssamskipti	1.155.000
Innri innkaupa- og aðgangsvefur fyrir Reykjavíkurborg	nóvember 2021	Imperio ehf.	736.000
Almannatengsl vegna stafrænnar vegferðar Reykjavíkurborgar	nóvember 2021	HN Markaðssamskipti	2.050.000
Framendaforritun (ítrun og viðbætur) á nýjum vef Reykjavíkurborgar, frágangur eininga í Storybook fyrir vefinn, rekstur á Storybook	desember 2021	1X Internet	4.575.000
Kennslumyndband, rafræn skilríki	desember 2021	HN Markaðssamskipti	990.000
Forritari í þróunarteymi fyrir stafræna verkefnið Innritun í grunnskóla	desember 2021	Stafrænar lausnir ehf. - Sendiráðið	8.950.000
Eitt hugbúnaðarþróunarteymi fyrir stafræna verkefnið Fjárhagsaðstoð- umbætur á núverandi kerfi	janúar 2022	Codebear	7.400.000
Eitt hugbúnaðarþróunarteymi fyrir stafræna verkefnið Ráðgjafann - starfsmannagátt	janúar 2022	Codebear	7.400.000

Eitt hugbúnaðarþróunarteymi fyrir stafræna verkefnið Ráðgjafann íbúagátt/Stoð	janúar 2022	Codebear	7.400.000
LEIÐ 2			
Gerð útboðsgagna - Þráðlaust net í grunnskólum	september 2021	Hannesson.is / Guðmundur Hannesson	970,000 - 1,455,000
Framleiðandi í stafrænni umbreytingu	október 2021	Maggar ehf.	3,975,000 - 5,565,000
Greining á leitarmöguleikum í fundargerðum (Gagnsjá 2.0)	desember 2021	Origo	2,217,600 - 2,956,800

Þá er óskað eftir sundurliðun verkþátta á þriggja ára tímabilinu, en fullyrt hefur verið að meira en 70% verði boðið út af þeim 10 milljörðum sem búið er að ákveða að eytt verði í verkið „Stafræn Umbreyting".

Vísað er til svara hér fyrir ofan og neðangreinds yfirlits yfir verkefni innan mismunandi verkefnaklasa. Á hverjum tíma er metið hvað er hagstætt að bjóða út, útvista eða innvista. Því áskilur ÞON sér rétt til að breyta um aðferðafræði við framkvæmd einstakra verkefna eftir markaðsaðstæðum og fenginni reynslu hverju sinni, út frá því meginsjónarmiði að hámarka virði þess fjár sem til ráðstöfunar er m.t.t. vænts árangurs.

Klasi	Vinnuheiti	Stutt lýsing	Frumkostn aðar-áætlun v. 2021-2023
Stafræn umbreyting - Rannsóknir og nýsköpun	Rannsóknar-þjónusta	Sérstök tenging við Græna planið og umsóknir um Grænu borg Evrópu ásamt því að komast inn í hóp 100 kolefnishlutlausra borga. Styrking rannsóknarteymis með áherslu á tímabundna stöðu verkefnastjóra eða fjármagn í ráðgjafakaup/utanaðkomandi vinnu. Teymið mun leggja aukna áherslu á að sækja Evrópustyrki með áherslu á alþjóðleg verkefni sem styðja við stefnur borgarinnar. Felur í sér aukna þekkingarsköpun, og aukið rannsóknarfjármagn til borgarinnar.	71 mkr.

	Chief Start-up Officer og Start-up in Recidence.	Nýsköpun innan borgarkerfisins að fyrirmynd Amsterdamborgar. Áskoranir borgarinnar eru boðnar út til úrlausnar fyrir sprotafyrirtæki. Skilyrði sett inn um að fyrirtæki séu staðsett í Reykjavík. Frumkvöðlar og sprotafyrirtæki eru tekin tímabundið í fóstur (1 dag í viku í 2-6 mánuði) og þeim boðið að vinna að raunhæfum og skapandi lausnum á þeim félagslegu og umhverfislegu áskorunum sem borgin og íbúar hennar standa frammi fyrir. Borgin veitir sprotafyrirtækjum vinnurými, aðgang að sérfræðiþekkingu og tækifæri til að framkvæma tilraunaútgáfur. Ef lausnirnar reynast vel mun sveitarfélagið skoða að fjárfesta í gangsetningu þeirra eða kaupa þær til notkunar. Verkefni eru unnin í umsjón Chief Start-up Officer sem greiðir leið þeirra og er tengill innan borgarinnar eða með samningi við hraðla. Tengt stefnumörkun um nýsköpun í borgarkerfinu.	37 mkr.
Stafræn umbreyting - rafvæðing ferla	Lýðræðis-gáttir og fleira	Tillaga mannréttinda- nýsköpunar- og lýðræðisráðs R19010390. Umbreyting á lýðræðisverkefnum. Um er að ræða ferlahönnun og hugbúnað/vefþróun ásamt innkaupum á hugbúnaðarlausnum. Kemur lýðræðisverkefnum í farveg til framtíðar og einfaldar viðmót þeirra gagnvart notendum.	60 mkr.
	Gagnsjá, ábendinga-gátt, styrkjagátt, samráðsgátt	Tillaga mannréttinda- nýsköpunar- og lýðræðisráðs R19030273. Ferlahönnun fyrir helstu ferla. Tæknivinna vegna Gagnsjár og tenging við Hlöðu og önnur upplýsingakerfi.	96 mkr.

	Stafræn þróunar-teymi	Til að auka hraða í stafrænni umbreytingu eru stofnuð sex þróunarteymi og eitt stoðteymi þeim til stuðnings. Teymunum er ætlað að stefna að því að fara í gegnum 84 þjónustu- og umsóknaferla hjá borginni á þremur árum. Til að tryggja vinnsluhraða og framgang teyma er kemur að stafrænni umbreytingu inni í borgarkerfinu þarf stoðteymi í kringum teymin. Teymin ryðja hindrunum úr vegi og veita ráðgjöf og aðstoð inn á svið. Til þess að tryggja skilvirkni, skýrt eignarhald og samræmda sýn þarf starfræna leiðtoga inn á öll svið borgarinnar sem starfa náið með stafrænni Reykjavík og yfirstjórn sviða. Markmið að hraða stafrænni umbreytingu á sviðum borgarinnar með ávinning að umbreyta ferlum og hraða virðisaukandi verkefnum. Um er að ræða blönduð teymi af tímabundnum starfsmönnum og aðkeyptri vinnu og þjónustu.	2.394 mkr.
	Vefþróun	Umfang vefþróunar hefur margfaldast undanfarin ár en í dag hefur ÞON umsjón með 470 vefjum borgarinnar, þróun þeirra, innleiðingu og eftirfylgni. Verkefnið framundan er að klára ítranir á nýjum vef borgarinnar Reykjavik.is og Mínum síðum. Einnig að gangsetja þróunarferli á nýju RVK-appi og leysa margar undirliggjandi áskoranir eins og t.d. upplýsingagjöf til leikskólaforeldra ásamt fjölmörgum öðrum vefverkefnum er bíða úrlausnar. Afurð verður m.a. samræmd uppbygging á vefumhverfi borgarinnar.	160 mkr.
	Stafræn stefnu-mörkun borgarinnar	Nú eru til nokkrar gildandi stefnur t.d. stefna um nýtingu upplýsingatækni en það vantar aðrar eins og gagnastefnu, afritunarstefnu, skýja og tæknihögunarstefnu og vefstefnu svo eitthvað sé nefnt, til að fylla upp í heildarmyndina. Það er nauðsynlegt að hafa skýrar stefnur í stafrænni vegferð því er ástæða til að vinna stafræna stefnu borgarinnar með ítarlegum köflum sem gefur heildarmynd af kröfum og þörfum borgarinnar í stafrænni framtíð. Útkoman verður heildræna stefna fyrir upplýsingatækniinnviði og stafræna umbreytingu til lengri tíma.	15 mkr.

Stafræn umbreyting - Hugbúnaður og ný upplýsingakerfi	Vinnsluskrá persónu- upplýsinga	Sbr. tilmæli frá persónuverndarfulltrúa borgarinnar. Samræma þarf vinnsluskrá persónuupplýsinga hjá borginni með smíði sameiginlegrar skrár. Ekki er í dag til staðar nein formkrafa um hvernig vinnsluskráin skuli sett fram eða hvaða aðferð skuli notuð við gerð hennar. Sviðin og stofnanir hennar ákveða því fyrirkomulag skrárinnar sjálf; hvort sem það er gert með því að hafa yfirlit í formi skriflegs skjals, Excel skjals, eða með öðrum hætti. Í upphafi fer fram viðamikil greiningarvinna og samræming aðferða og ferla milli sviða. Samræming skráa yfir vinnslu persónuupplýsinga hjá borginni á þessu stigi er mikilvæg upp á hagræði til framtíðar.	22 mkr.
	Ný upplýsinga- kerfi Hugbúnað- arsafn Rvk	Það er stöðug aukning á umsóknum vegna nýrra upplýsingakerfa og bárust t.d. 140 umsóknir frá öllum sviðum borgarinnar um fjármögnun verkefna fyrir árið 2020. Verkefnum fyrir árið 2021 var forgangsraðað í samræmi við stefnur borgarinnar, áherslur sviða og sértækar áherslur sem eru fyrir hendi. Til viðbótar við stór verkefni sem komu til framkvæmda á árinu 2019 og 2020 og halda þarf áfram með, verður lögð áhersla á verkefni sem uppfylltu öll skilyrði á árinu 2020 en ekki voru til auðlindir fyrir. Þá verður skapað rými fyrir forgangsverkefni sem óskað var eftir á árinu 2021. Tæplega helmingur fjármagnsins er ætlað til verkefna sem þegar eru í framkvæmdarferli og tæplega helmingur þess til nýrra verkefna sem óskað var eftir á árinu 2020 en ekki var hægt að koma í framkvæmd. Þá er frátekið fjármagn vegna verkefna sem koma inn á árinu 2021 og þurfa að vera í forgangi.	2.100 mkr.
	Office 365	Innleiðing á Office 365 hjá öllu starfsfólki borgarinnar. Starfsfólk og stofnanir þurfa að hafa aðgang að nýjustu útgáfu af Office og geta nýtt það tól til samvinnu í hinum ýmsu verkefnum innan sviða og þvert á svið borgarinnar sem og við utanaðkomandi aðila. Teams er stór þáttur í þessari innleiðingu og þykir það vera mikilvægt tól til samvinnu bæði innanborgarinnar en líka við ytri aðila. Hluti notenda borgarinnar er kominn með Office365 leyfi og nauðsynlegt er að klára innleiðingu. Um er að ræða mjög stóra breytingu á Microsoft leyfastrúktúr borgarinnar. Mikilvægt er að búið verði til kennslu- og fræðsluefni fyrir	605 mkr.

		notendur. Að auki er það mikilvægt að notendur geymi gögnin í skýinu frekar en á eigin vélbúnaði eða á heimasvæðum. Þetta er einnig nauðsynlegur þáttur í stuðning við stafræna vegferð. Dregið úr mikilvægi miðlægs búnaðar í rekstri ÞON sem kominn er til ára sinna. Minnkar tækniskuld og þörf fyrir fjárfestingu í miðlægum búnaði. Þetta mun t.d. til lengri tíma losa diskapláss í gagnastæðum borgarinnar um 12TB af gögnum auk kostnaðar við öryggisafritun. Eftirlit og rekjanleiki með gögnum og meðferð þeirra verður betri og tengingar á milli kerfa einfaldari.	
	Nýtt síma- og samskipta-kerfi	Hefðbundnir borðsímar og landlínur eru á hraðri útleið og hefur Míla t.d. hafið það ferli að loka ákveðnum hlutum kerfisins. Ljóst er að umtalsvert hagræðingartækifæri til lengri tíma skapast við að innleiða nýtt síma- og samskiptakerfi sem stutt getur við nútíma samskipti þvert á alla borgina. Við slíka breytingu sparast mikil vinna við að viðhalda og samræma þær 72 símstöðvar sem í rekstri eru og símanúmer þeirra en einnig opnast möguleikar á að nota „softphones" tölvusíma meira, tengja símanúmer við starfsfólk, hringihópa, biðraðir, þjónustu- og skiptiborð sem geta öll talað saman og verið mæld með samræmdum hætti. Í fyrsta sinn yrði hægt að tryggja að símanúmer og tengiliða upplýsingar alls starfsfólks væru skráðar á einum stað og birt á innri vef til að greiða fyrir samskiptum. Þetta verkefni miðar að því að leita leiða til að draga úr innviðakostnaði við hvern síma og fjölga tölvusímum svo að starfsmenn borgarinnar geti betur nýtt hagstæða samninga borgarinnar vegna símanúmera.	100 mkr.
	Samræmd nemenda-skráning	Gerð og innleiðing á samræmdri nemendaskráningu fyrir alla nemendur í leik- og grunnskólum borgarinnar. Í dag eru nokkur kerfi í notkun fyrir grunnskóla, leikskóla og frístund. Kerfin eru m.a. ekki samþætt fjárhagskerfum borgarinnar þannig að hver fjölskylda fær marga reikninga, sérstaklega ef börnin ganga í mismunandi skóla í borginni. Þörf er á að breyta þessu og samræma með notendamiðaða þjónustu að leiðarljósi. Breyting á nemendaskráningu gerir flutning barna á milli skólastiga auðveldari þannig að saga þeirra fylgi þeim, hún dregur einnig úr ýmissi óvissu og breytir miklu í bakvinnslu.	400 mkr.

	Innanhús-leiðarkort	Leiðsögukort fyrir stjórnsýsluhús mun auðvelda fólki að rata í húsunum og auka aðgengi hreyfihamlaðra með því að sýna hvernig er best að komast frá A-B hvort sem viðkomandi er fær um að taka stiga eða ert bundin við að nýta lyftur hússins. Dregur einnig úr mönnunarþörf í afgreiðslu og auðveldar sjálfvirkni.	11,5 mkr.
	Húsum-sjónarkerfi og hugbúnaður fyrir skilvirka rekstrar-þjónustu	Um er að ræða kerfi sem heldur utan um rekstur, viðhald stjórnsýsluhúsa og veitir yfirsýn yfir birgðastöðu. Með skilvirku kerfi og forgangsröðun verkefna má nýta fjármagn og mannauð betur. Auk þess er notendamiðuð þjónusta við starfsfólk borgarinnar mikilvæg. Gott og notendamiðað beiðnakerfi skiptir öllu í upplifun notanda þjónustunnar og staða mála sé skýr í allri umgjörð innri þjónustu . Felur líka í sér endurhönnun á ferlum til að standa undir væntingum framtíðarinnar um þjónustustig.	22,5 mkr.
Stafræn umbreyting - Upplýsinga- og gagnastýring	Hlaðan	Innleiðing Hlöðunnar, nýs upplýsingastjórnunarkerfis Reykjavíkurborgar heldur áfram en gangsetningu hennar seinkaði m.a. vegna Covid. Verkefnið er eitt mikilvægasta umbreytingarverkefni borgarinnar þessi misserin. Hlaðan mun breyta daglegu vinnulagi starfsmanna til framtíðar og ryðja úr vegi hindrunum sem standa í vegi fyrir ýmiss konar sjálfvirkni. Í kerfinu verða öll skjöl vistuð auk þess sem kerfið býður upp á ýmsa möguleika til öflugrar verkefnastjórnunar. Nokkurra ára átak í skjalamálum, högun, stjórnun og verkaskiptingu, þvert á alla borgina mun til lengri tíma spara margfalt það fjármagn sem í átakið verður sett, bæði hvað varðar öryggi gagna, trúverðugleika og betri stjórnun og meðferð persónugreinanlegra gagna.	264 mkr.
	Gagna-vinnslustöð (e. data science platform)	Eitt af stóru skrefunum í stafrænni vegferð borgarinnar er að þróa gagnalandslag í fyrsta sinn. Stór liður í því er að koma gagnahugbúnaði (s.s. gagnavinnslur, kóða, mælaborð og tölfræðilíkön) sem þróaður er innan borgarinnar í rekstur á miðlægum stað. Þetta er gert með því að setja upp gagnavinnslustöð þar sem hægt er að keyra opinn hugbúnað, í sama þróunar-og rekstrarumhverfi og er til staðar hjá ÞON. Með þessum hætti verður ferillinn frá þróun til rekstrar í sama farvegi og er	90. mkr.

		til staðar fyrir annan hugbúnað hjá borginni. Gagnavinnslustöðin er mikilvægur stökkpallur fyrir ÞON til að koma vörum sínum og hugbúnaði hratt og örugglega í rekstur og þar með styrkja stafræna umbreytingu borgarinnar. ÞON framkvæmir margar af umfangsmestu greiningum á gögnum innan borgarinnar. Það er því mikill hagur í því fyrir borgina að gagnaþjónustan vinni sína vinnu á traustum vettvangi sem aðlagast vel að tækniumhverfi borgarinnar til að geta komið virðisaukandi lausnum í rekstur hratt og örugglega. Byggir á vöruhúsi gagna.	
	Vöruhús gagna. Átaks-verkefni vegna COVID-19	Náðist ekki að klára innan árs. Samþykkt í borgarráði 28.05.2020. R20030002	30 mkr.
Stafræn umbreyting - Hönnun og umbreyting þjónustu	Átak í teikninga-skönnun	Mikil eftirspurn eftir teikningum á rafrænu formi af notendum, bæði almenningi, iðnaðarmönnum, borgarstofnunum og öðrum hagsmunaaðilum. Innskönnun teikninga er brýnt verkefni en mikill fjöldi teikninga hefur ekki verið færður á stafrænt form og því aðeins aðgengilegur í pappírsformi. Mikilvægt er að koma öllum teikningum á vef borgarinnar og gera aðgengilegar öllum. Að skönnun teikninga lokinni verður einungis tekið við teikningum með rafrænum hætti hjá borginni. Verkefnið snýr að a) sérteikningum sem geymdar eru í skjalageymslu í Höfðatorgi, b) raflagnateikningum sem geymdar eru í Borgarskjalasafni, skanna, skrá og setja á vef og ganga frá í umbúðir til framtíðarvarðveislu og c) færa upplýsingar og rafræn skjöl inn í Scope, umsýslukerfi Borgarskjalasafns. Stafrænt aðgengi tryggir jafnt aðgengi allra og felur í sér umtalsverða hagræðingu fyrir fagaðila s.s. byggingariðnaðinn, og borgina til framtíðar.	135 mkr.

Stafræn umbreyting - Upplýsingatækniinnviðir og notendabúnaður	Öryggi upplýsinga-tækni-innviða I	Brýn nauðsyn er að bregðast við nýjum kröfum um gagnaöryggi. Hagkvæmast og jafnframt öruggast er að leggja niður tölvuvélasali í kjöllurum stjórnsýsluhúsa Reykjavíkurborgar og færa gögn og kerfi af núverandi gagnageymslum og netþjónum yfir á nýjar gagnageymslur og netþjóna í gagnaveri. Sértækur búnaður sem ekki er hægt færa yfir á nýjan tölvubúnað yrði fluttur í sama gagnaver. Ágætt framboð er komið af gagnaverum á landinu svo sem í Hafnarfirði, Reykjanesbæ, Blönduósi og í Reykjavík en öll bjóða þau upp á að hýsa búnað sem og hýsingu á eigin búnaði. Þetta er liður í að verja kerfi og þær upplýsingar sem Reykjavíkurborg varðveitir fyrir öllum ógnum, innri og ytri, hvort sem þær eru tilkomnar af ásetningi, gáleysi eða slysni.	205 mkr.
	Öryggi upplýsinga-tækniinnviða II	Brýn þörf er á að endurnýja lagnaskápa sem hýsa netskipta ásamt að setja miðlæga aðgangsstýringu á alla netskápa þannig að þeir uppfylli kröfur um öryggi. Fjölga þarf einnig netskiptum sem í dag eru helsti flöskuhálsinn í útbreiðslu fjarfundabúnaðar og megin orsök truflana á netsamskiptum en netskiptarnir ráða hraðanum í netkerfi borgarinnar. Þetta verkefni útheimtir mikla vinnu með m.a. aðkomu iðnaðarmanna við að leggja nýjar lagnir og setja upp nýja skápa, öryggissérfræðinga varðandi aðgangsstýringu á skápunum, verkefnastjóra við að greina verkefnið og halda utan um innleiðingu og upplýsingatæknisérfræðinga við greiningu og uppsetningu búnaðar.	350 mkr.
	Allsherjar-innleiðing fjarfunda-búnaðar	Mikilvægt er að tækni á borð við fjarfundabúnað nái til sem flestra starfsstaða borgarinnar. Í því felst ekki einungis hagræði er varðar ferðakostnað, mengun og umferð heldur einnig umtalsverður tímasparnaður. Tryggja þarf fyrst og fremst að starfsemi og þjónusta borgarinnar haldist órofin hvað sem á bjátar. Komið hefur í ljós að starfsstaðir borgarinnar eru misvel búin undir þær breytingar sem þeir hafa þurft að takast á vegna þess ástands er Covid hefur skapað síðan snemma árs 2020. Mikilvægt er að huga að þeim þáttum sem skipta máli til þess að fjarfundir skili árangri. Örugg og skilvirk samskipti skipta miklu máli þegar starfsmenn starfa í dreifðu vinnuumhverfi. Einfalt notendaviðmót fyrir fundarstjóra sem og	120 mkr.

		gesti er mjög mikilvægur þáttur. Einnig öryggi í formi aðgangsstýringar, t.d. rafrænar auðkenningar til að tryggja að þeir sem koma inn á fundinn séu þeir sem þeir segjast vera. Þá er góður fundarbúnaður einnig lykilatriði.	
	Alþjónusta við prent-umhverfi	Í dag rekur ÞON rúmlega 1.300 prentara. Þar af fimm prentþjóna sem stjórna tæplega 900 nettengdum prenturum. Til viðbótar eru rúmlega 350 prentarar sem eru öðruvísi tengdir. Umhverfið sem byggst hefur upp yfir áratugi skapar flókin innkaup, rekstur, viðhald og eftirlit með kostnaði. Með því að semja um alþjónustu við prentumhverfið verður kostnaðarvitund meiri, innkaup auðveldari og fyrsta skrefið yrði tekið að innleiðingu á aðgangsstýrðu prentskýi. Verkefnið bestar meðhöndlun fjármuna og ávinnings. Eingöngu er greitt eftir á fyrir notkun, í stað þess að fara í fjárfestingar í búnaði og rekstrarvörum með tilheyrandi rýrnun, afskriftum og annarri óhjákvæmilegri sóun.	50 mkr.
	Búnaðar-kaup	Hér allur notendabúnaður borgarinnar undir og mikilvægt að draga ekki úr fjárfestingu enda fjölgar tækjum í rekstri stöðugt og þar með endurnýjunarþörf. Almennur tölvubúnaður á útstöðvum (mestmegnis fartölvur) endist almennt í fjögur til fimm ár án vandræða. Endurnýja þarf 25% að meðaltali árlega svo ekki skapist hali sem erfitt verður að vinna upp. Þjónustuþungur búnaður s.s. vegna aldurs er mjög kostnaðarsamur og er útfösun hans fljót að borga sig. Almennt er þróunin einnig sú að útleiða borðtölvur í sífellt stærri hluta starfseminnar. Það hefur t.d. sýnt sig í Covid faraldrinum að fartölvur eru betri kostur í fleiri verkefni en áður var talið en eins og kunnugt er hefur starfsfólk þurft að vinna að heiman í auknum mæli og þá er mun einfaldara og ódýrara að viðkomandi hafi fartölvu frekar en borðtölvu. Þetta mun hafa áhrif á hvernig tækniumhverfi borgarinnar er samsett og gera ÞON erfiðara um vik við að koma bortölvum sem skilað er inn aftur notkun. Spjaldtölvur, Chromebækur og símar	2.200 mkr.

		munu verða vinsælli vinnutæki, sérstaklega þegar hægt verður að hljóðrita (diktera) inn texta í stað vélritunar. Mikilvægt er að ástand og afkastageta búnaðar sé góð svo að búnaður hamli ekki framleiðni starfsfólks. Þá þarf búnaður almennt að vera tiltölulega nýlegur svo að hann geti vel unnið með og tengst öðrum búnaði.	
	Sérstök búnaðar-kaup SFS	Forsendur framþróunar í notkun upplýsingatækni í öllu skóla- og frístundastarfi byggir á breyttum starfs- og kennsluháttum þar sem stafræn hæfni kennara og barna er í forgrunni. Aðgerðirnar byggja ofan á þá miklu og merkilegu þróun í notkun upplýsingatækni sem einkenndi skóla- og frístundastarf vorið 2020 og lögð er sérstök áhersla á að tryggja umsjón, utanumhald og stuðning við lærdómssamfélag í hverjum grunnskóla og leikskóla. Verkefnið skiptist í eftirfarandi þætti: 1) Í 36 grunnskólum er gert ráð fyrir uppfærslu búnaðar fyrir fagfólk og viðbótarbúnaði fyrir nemendur á unglingastigi sem og nemendur með sérstakar þarfir. 2) Í 63 leikskólum er gerð ráð fyrir auknum búnaði fyrir fagfólk, þ.e. að leikskólastjórar, aðstoðarleikskólastjórar, sérkennslustjórar og deildarstjórar hafi tölvu til umráða í starfi sínu. 3) Þriðji hlutinn felst í auknum stuðningi innan leik- og grunnskóla við notkun stafrænnar tækni og búnaði fyrir þróunarstarfi á yngri stigum grunnskóla. Eins er gert ráð fyrir kostnaði við miðlun og fjarkennslubúnað, stuðning við stafrænt frístundastarf, persónuverndarmál og starfsþróun með fjölbreyttum leiðum. Aðgerðin styður við og flýtir fyrir framþróun náms- og kennsluhátta í Reykjavík.	733 mkr.

	Miðlægur búnaður og netbúnaður	Endurnýjunarþörf fyrir miðlægan búnað (að undanskildum kostnaði við að flytja kerfis- og gagnahýsingu í gagnaver eða skýjaþjónustur) er mikil og einkum tilkomin vegna veldisvaxtar í gagnaflutningum innan og utan kerfis. Nauðsyn er að viðhalda öflugum innviðum netkerfis og miðlægu tæknilegu umhverfi t.d. fyrir fjárhags- og mannauðskerfi og önnur eldri kerfi.	300 mkr.
	Sjálfvirkni- væðing upplýsinga- tækni- innviða borgarinnar	Tækniskuld hefur safnast upp á mörgum árum og handvirkni er orðin mikil og því er nauðsyn að fjárfesta í kerfum og búnaði sem safnar sjálfvirkum upplýsing um hvaða búnaður og kerfi eru í notkun á innra neti borgarinnar og ná þannig yfirsýn og minnka handvirka vinnslu við gerð t.d. gjaldskrár, hugbúnaðarleyfa og yfirlit yfir tölvubúnað. Alls kyns leyfaúttektir eru orðnar algengar og fela í sér gríðarlega fjárhagslega áhættu ef ekki er rétt á haldið varðandi leyfi og annað því tengt.	40 mkr.
	Sjálfvirkt eftirlit og öryggiskerfi með upplýsinga- tækniinn- viðum borgarinnar	Innleiðingar á eftirlitskerfi sem bíður upp á söfnun og greiningu á infrastrúktur/platform/net/öryggis og fl. loggum og eventum, dashboarding, preemtive monitoring með notkunin á ML og AI lausnum gefur nauðsynlega yfirsýn, rekstrar- og gagnaöryggi. Slíkt eftirlitskerfi er forsenda fyrir stafræna umbreytingu og rafvæðingu ferla þar sem ekki í boði lengur að mæla einungis CPU, minnisnotkun og fl. slíkt í tölvubúnaði - hluti af stafrænni umbreytingu er mælanleiki ferla. Nauðsynlegt til að sjá heilsu og yfirsýn yfir upplýsingatækniinnviði í borginni og virkni þeirra í rauntíma.	53 mkr.
	Umhverfis- stjórnun stjórnsýslu- húsa	Unnið verður að því að koma magntölum úr rekstri inn í stafrænt kolefnisbókhald svo vinna megi að gagnadrifinni umhverfisstjórnun húsanna með markmið borgarinnar um kolefnishlutleysi að leiðarljósi. Undir þetta fellur meðal annars innleiðing á gagnvirkum mælum (s.s. fyrir hita, vatn, loftgæði) og gagnatengingum við lykilmælikvarða rekstrar stjórnsýsluhúsa (s.s. úrgang).	22,5 mkr.

	Aðgangs- og öryggis- stýring stjórnsýslu- húsa	Heilstætt aðgangs- og öryggisstýringarkerfi fyrir stjórnsýsluhús borgarinnar er mikilvægur hluti í að tryggja öryggi starfsmanna og gesta hússins. Aðgangskerfi húsanna eru komin til ára sinna og standast ekki nútíma kröfur. Samningar vegna kerfana eru einnig að komast á endurnýjun. Með endurnýjun og sameiningu aðgangskerfa B12-14 og Ráðhússins með nýrri tækni má spara bæði umsýslutíma og plastnotkun í kortum sem gjarnan týnast.	50 mkr.

Með ofangreindu næst heildarnálgun og markmið í öruggum og áreiðanlegum upplýsingatækniinnviðum sem hægt er að stjórna á einfaldan og skilvirkan hátt.

Virðingarfyllst,

Óskar J. Sandholt,
sviðsstjóri Þjónustu- og nýsköpunarsviðs

Stafrænt Ísland

Stefna um stafræna
þjónustu hins opinbera
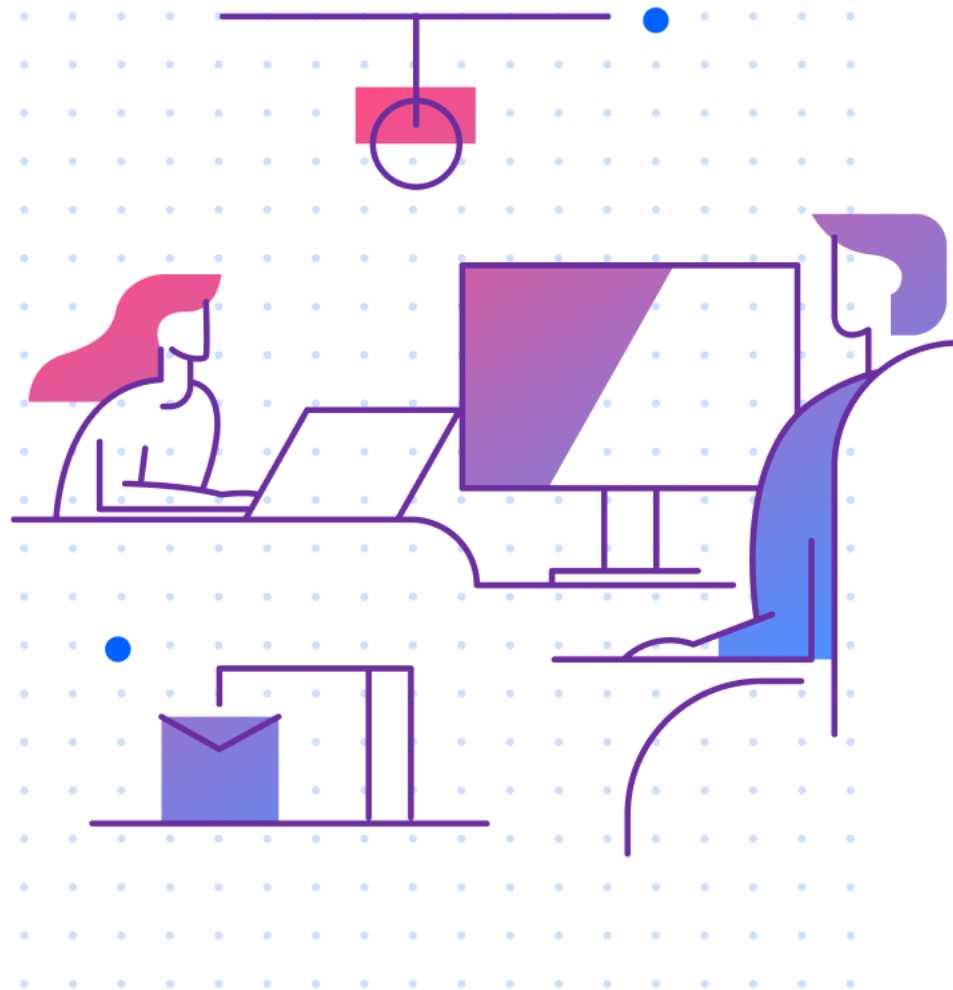
Sýn

Ísland er meðal allra fremstu þjóða heims á sviði stafrænnar þjónustu. Stafræn þjónusta er notuð til þess að skapa öflugt samfélag með aukinni samkeppnishæfni sem leiðir til verðmætasköpunar og myndar grundvöll hagsældar. Stafræn þjónusta er skýr, örugg, einföld og hraðvirk. Upplifun notenda af þjónustunni stenst samanburð við þjónustu eins og hún gerist best. Almenningur og fyrirtæki í landinu komast beint að efninu, hvar og hvenær sem er, sem sparar dýrmætan tíma fólks. Jafnframt minnka áhrif þjónustunnar á náttúruauðlindir.
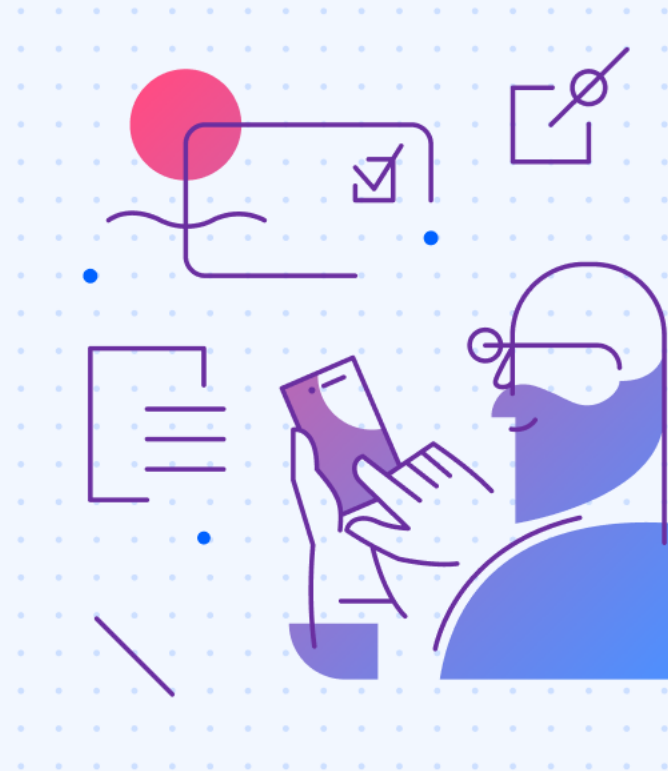
Markmið og áherslur

- Aukin samkeppnishæfni
- Öruggari innviðir
- Betri opinber þjónusta
- Nútímalegra starfsumhverfi

Aukin samkeppnishæfni:

Almenningur og fyrirtæki geti nýtt möguleika stafrænnar þjónustu og innviði hins opinbera til aukinnar nýsköpunar, verðmætasköpunar og lýðræðislegrar þátttöku.

Áherslur:

- Almenningur og fyrirtæki hafa greiðan aðgang að upplýsingum sem opinberir aðilar búa yfir og varða viðkomandi.

- Samfélagið hefur þekkingu og kunnáttu á möguleikum tækninnar, svo sem stafræna þjónustuleiða og gervigreindar.

- Möguleikar stafræna innviða eru nýttir til að auka lýðræðislega þátttöku með gagnvirkni og samráði við almenning.

- Gögn hins opinbera eru aðgengileg og hagnýtt að teknu tilliti til persónuverndarsjónarmiða og samþykkis einstaklinga.

- Stafræn þjónusta og nýjar lausnir eru þróaðar í samvinnu við fjölbreyttan hóp fyrirtækja og sérfræðinga, meðal annars með hagnýtingu opins hugbúnaðar.

- Löggjöf gerir ráð fyrir stafrænni þjónustu og samskiptum.

Opinn hugbúnaður og vefþjónustur á borð við rafrænar þinglýsingar skapa grundvöll að auknu gegnsæi, ýta undir nýsköpun og brúa bil milli stjórnsýslu og einkageira.

Betri opinber þjónusta

Almenningur og fyrirtæki hafi jafnt aðgengi að framúrskarandi opinberri þjónustu sem er veitt út frá þörfum notenda á skilvirkan og hagkvæman hátt.

Áherslur:

- Stafræn þjónusta er aðgengileg samfélaginu öllu og löguð að þörfum mismunandi hópa.

- Stafræn samskipti, í gegnum Ísland.is, eru megin samskiptaleið hins opinbera við almenning og fyrirtæki.

- Meginreglan er að einungis þurfi að skrá gögn einu sinni í samskiptum við hið opinbera og að gögn ferðist á milli stofnana í stað fólks.

- Rekstur vefkerfa og stafrænnar þjónustu er hagkvæmur og uppfyllir hæstu mögulegu öryggisskilyrði.

- Vefþjónustur og gagnaflutningslag hins opinbera er samræmt út frá tæknistefnu Ísland.is.

- Samhæfing og hagkvæmni hugbúnaðarlausna er tryggð.

Stafræn umsókn um fæðingarorlof, ökuskírteini og ýmsar sjálfsafgreiðslulausnir tryggja hraðari og betri opinbera þjónustu.

Öruggari innviðir

Upplýsingatækni verði hagað á öruggan, skilvirkan og hagkvæman hátt í gegnum trausta innviði sem mæta bæði kröfum almennings til grunnþjónustu stofnana og stuðla að auknum sveigjanleika opinberrar þjónustu.

Áherslur:

- Vinnubrögð í rekstri upplýsingatæknikerfa eru öguð og byggja á alþjóðlegum stöðlum.

- Öflugir innviðir á sviði tækni styðja við markmið um öryggi, skilvirkni og nýsköpun.

- Öruggasta tækni í gagnaflutningi og aðgangsstýringu að upplýsingum er hagnýtt.

- Upplýsingar hins opinbera eru ávallt meðhöndlaðar út frá viðkvæmni- og öryggisstigi þeirra.

- Grunnkerfi hins opinbera byggja á stöðluðum lausnum, sem víðtæk þekking og reynsla er af.

Flytjum gögn en ekki fólk

Tenging stofnana við Strauminn (X-road) tryggir öruggan og rekjanlegan flutning gagna.

Nútímalegra starfsumhverfi

Opinberar stofnanir búi yfir nýjustu tæknilausnum og nútímalegu starfsumhverfi sem hvetur til framþróunar og sveigjanleika og er grundvöllur betra og skilvirkara vinnuskipulags. Jákvætt hugarfar ríkir gagnvart tækifærum nútímalegra starfshátta.

Áherslur:

- Opinberir starfsmenn hafa haldbæra þekkingu, hæfni og færni til að vinna í stafrænu starfsumhverfi og vinna að stöðugum umbótum og nýsköpun í starfi.

- Opinberir vinnustaðir vinna í samræmdum skrifstofuhugbúnaði.

- Starfsmenn vinna í verkefnamiðuðu starfsumhverfi.

- Möguleikar nýjustu tækni, svo sem sjálfvirknivæðingar, eru að fullu nýttir með ábyrgum hætti.

Hið opinbera nýti lausnir á borð við rafrænar undirritanir, fjarfundatækni og aðrar framleiðniaukandi lausnir til að bæta vinnumhverfi og veita betri þjónustu.

Tilefni stefnumótunar

Á sama tíma og væntingar fólks til þjónustu hafa aukist skapast stór tækifæri til að bæta þjónustuupplifun notenda með aukinni stafrænni þjónustu. Síðustu misseri hefur stafræn þjónusta þróast hratt á Íslandi á grunni stefnu stjórnvalda og þeirra sterku innviða sem byggðir hafa verið upp. Efling stafrænnar þjónustu er eitt af forgangsmálum stjórnvalda og mun stefnan leggja grunn að því að Ísland verði á meðal fremstu þjóða heims þegar kemur að stafrænni opinberri þjónustu.

Efling stafrænnar þjónustu er eitt af forgangsmálum stjórnvalda

Stefna um stafræna þjónustu er umgjörð um sýn og áherslur hins opinbera um hagnýtingu upplýsingatækni og stafrænnar þjónustu til að veita framúrskarandi þjónustu með öruggum hætti. Stafræn þjónusta á að ná til alls samfélagsins sem og bæta þjónustu við íbúa utan þéttbýlis og styðja við alla þá sem eiga erfitt með að nálgast þjónustu. Með því að hafa helstu þjónustu hins opinbera aðgengilega á Ísland.is er verið að koma almenningi og fyrirtækjum beint í þá þjónustu sem leitað er að. Markmiðið er að einstaklingar og fyrirtæki geti leyst úr sínum málum með sjálfsafgreiðslu, að stafræn ferli spari ferðalög fólks milli staða og tryggi öruggan flutning gagna milli stofnana. Slíkt kemur þó ekki í veg fyrir að þjónustan sé veitt með öðrum hætti samhliða og þannig komið til móts við þarfir mismunandi hópa samfélagsins.
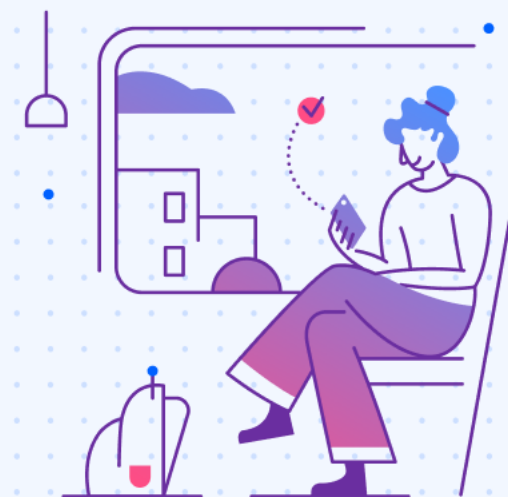
Stafræn samskipti verði megin samskiptaleið hins opinbera við almenning

Stafræn þjónusta auðveldar opinberum aðilum að veita nútímalega og skilvirka opinbera þjónustu. Með því að sameina þjónustu opinberra aðila á Ísland.is geta opinberir aðilar nýtt sér lausnir sem eru hannaðar með þarfir þeirra að leiðarljósi sem flýtir fyrir innleiðingu stafrænna lausna og kemur í veg fyrir tvíverknað. Stafrænar lausnir auka skilvirkni vinnustaða og gera það að verkum að hægt er að sinna verðmætari verkefnum í meira mæli og bæta þannig þjónustuna eða auka hagkvæmni hennar.

Stefnunni er jafnframt ætlað að miða að styrkri samkeppnisstöðu Íslands, fjölga störfum í þekkingariðnaði, bæta stafræna hæfni almennings og auka hagsæld með nýsköpun og skilvirkara samfélagi. Þá mun efling stafrænnar þjónustu skila hagræðingu í ríkisfjármálum og minnka áhrif opinberrar starfsemi á umhverfið.

Leiðandi stefna í öflugu erlendu samstarfi

Stefnan er leiðandi fyrir aðrar opinberar stefnur sem og stefnumarkandi ákvarðanir á þessu sviði. Hún var unnin í samráði við helstu hagsmunaaðila ásamt því að drög að stefnunni voru birt í samráðsgátt stjórnvalda. Lögð verður sérstök áhersla á ríkt samtal við hagsmunaaðila í aðgerðum stefnunnar. Viðfangsefnið er í örri þróun og því verður stefnan í stöðugri endurskoðun. Samhliða stefnunni birtist yfirlit yfir aðgerðir ásamt árangursmælikvörðum. Hún byggir á aðgerðaáætlun ríkisstjórnarinnar um eflingu stafrænnar þjónustu, sem samþykkt var í maí 2019, og yfirlýstum markmiðum um að stafræn samskipti verði meginsamskiptaleið hins opinbera við almenning. Þá hefur Ísland gengist undir sameiginlega yfirlýsingu Norðurlandanna (e. Digital North) og vinnur í nánu samstarfi við hin Norðurlöndin og Eystrasaltsríkin að markmiðum um vistvæna og sjálfbæra þróun auk hagnýtingar á gögnum og gervigreind. Stefnan byggir jafnframt á könnun sem fjármála- og efnahagsráðuneytið lét gera um stöðu stafrænnar umbreytingar (e. Digital Transformation) hjá stofnunum ríkisins.

Fjármála- og efnahagsráðuneytið ber ábyrgð á stefnunni og heyrir hún undir málaflokk 5.3 og 6.1 í fjármálaáætlun. Framkvæmd stefnunnar og aðgerða er hjá fjármála- og efnahagsráðuneytinu ásamt verkefnastofu um Stafrænt Ísland í náinni samvinnu við stofnanir ríkisins, önnur ráðuneyti, sveitarfélög, almenning, félagasamtök og fyrirtæki. Samband íslenskra sveitarfélaga hefur gerst aðili að stefnunni fyrir hönd sveitarfélaga og vinnur að framgangi hennar meðal sveitarfélaga landsins.
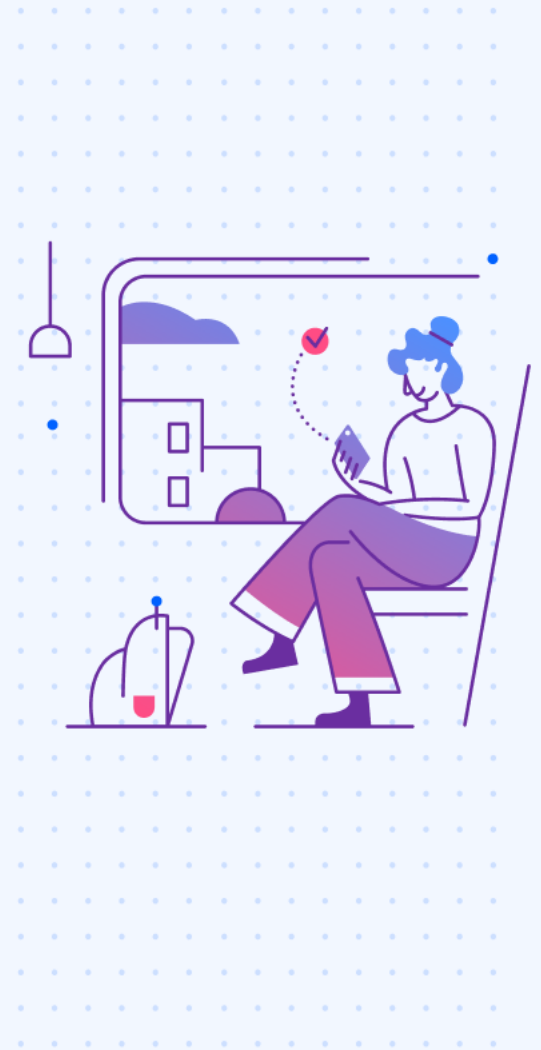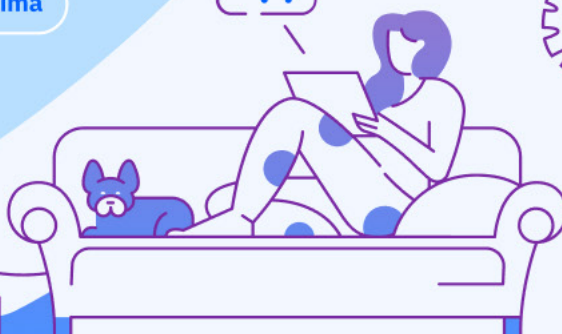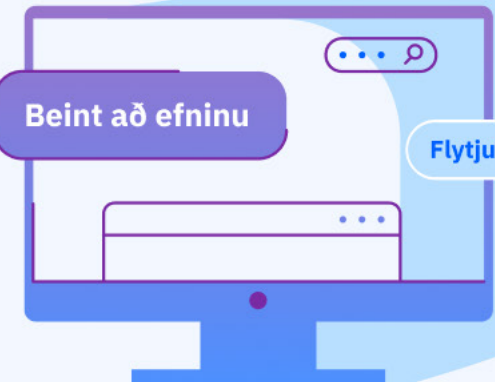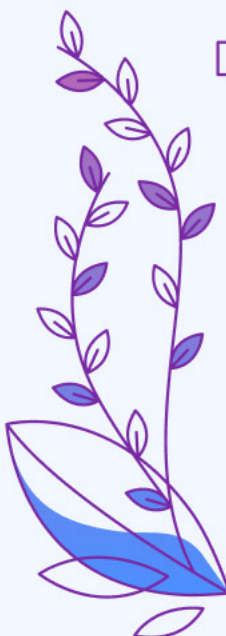
Stjórnarráð Íslands
Fjármála- og efnahagsráðuneytið

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Samband íslenskra
sveitarfélaga

Accelerate Digital for Future-Ready Government

Frameworks for composable tech, empowered citizens and the future of work

Gartner®

Introduction

Governments around the world had to adapt to radically shifting conditions during the COVID-19 pandemic. Demand for some public services, such as unemployment benefits, has risen sharply, and so has the need to support an increasingly remote workforce.

Many government CIOs believe that their organizations have responded well, but digital initiatives will remain critical to the ability of government organizations to pivot and continue to deliver against new demands.

Examples of mission-critical priorities include delivering new digital services for citizens, enabling remote or hybrid workplace at scale, and sustaining an effective supply chain.

Andrea Di Maio
Managing Vice President
Gartner Government & Education

Reported maturity of digital initiatives by government over past four years

Percentage of respondents

Legend:
- Maturing
- Initiating
- No Digital Progress

Year	Maturing	Initiating	No Digital Progress
2017	15%	52%	33%
2018	29%	43%	27%
2019	45%	36%	18%
2020	48%	38%	15%
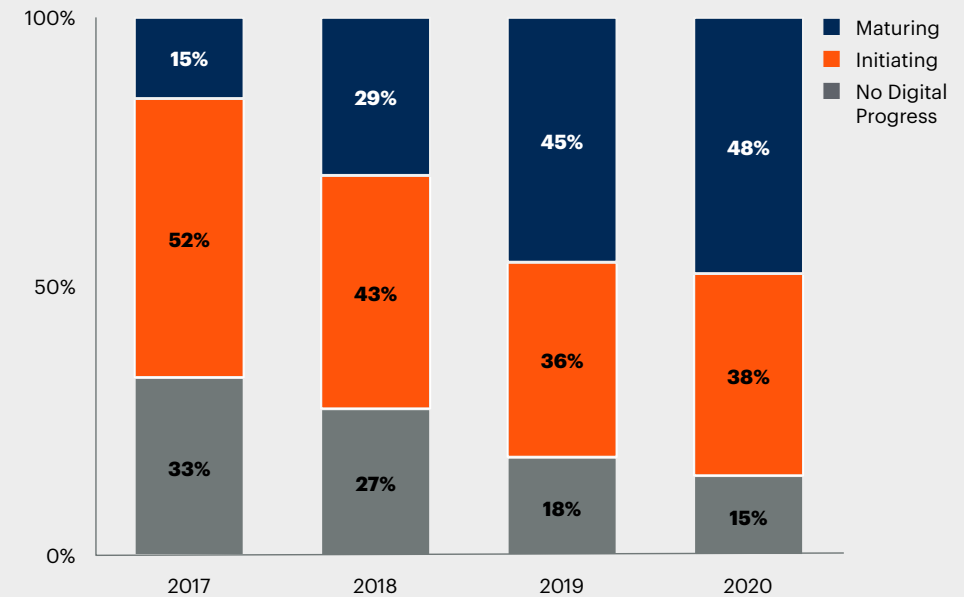
n = 2017 (441); 2018 (528); 2019 (130); 2020 (227)
Q: Which of these best describes the stage of your organization's digital initiative — i.e., your organization's digitalization efforts?
Source: 2021 Gartner CIO Survey

Note: Dates on the chart reflect year of data collection, not the cover year of the report. May not sum to 100% due to rounding; No Digital Progress = No Digital Initiative, Desire/Ambition. Initiating = Designing, Delivering. Maturing = Scaling, Harvesting/Refining

How government CIOs step up digital acceleration

1 Assess your digital maturity

2 Set up for acceleration

3 Prioritize what to accelerate

4 Sustain digital momentum

5 Invest in future-ready capabilities

74% of government CIOs report that they have increased the level of their business knowledge.

73% of government CIOs report that they have assumed leadership of high-impact initiatives.

Source: Gartner

Assess your digital maturity

Digital pioneers are already creating new data- and tech-enabled services and business models that can increase the value delivered to their constituents. Those still operating with legacy infrastructure and analog processes will struggle to keep up.

Many government CIOs say their digital initiatives are maturing, but many also confuse progress with maturity. Just because digital initiatives are going well doesn't mean the organization's digital initiatives are necessarily mature — and this misperception could undermine long-term investment in digital maturity.

To transform public services, government CIOs will need to candidly assess where their organization stands in relation to its goals and take strategic steps to increase digital maturity. Only this type of sustained digital government strategy will systematically make public services and operations more adaptable, affordable and sustainable.

Digital government maturity model

	1 Initial (E-Government)	2 Developing (Open)	3 Defined (Data-Centric)	4 Managed (Fully Digital)	5 Optimizing (Smart)
Value Focus	Compliance	Transparency	Constituent Value	Insight-Driven Transformation	Sustainability
Service Model	Reactive	Intermediated	Proactive	Embedded	Predictive
Platform	IT-Centric	Customer-Centric	Data-Centric	Thing-Centric	Ecosystem-Centric
Ecosystem	Government-Centric	Service Co-creation	Aware	Engaged	Evolving
Leadership	Technology	Data	Business	Information	Innovation
Technology Focus	SOA	API Management	Open Any Data	Modularity	Intelligence
Key Metrics	Percentage of Services Online	Number of Open Datasets	Percentage Improvement in Outcomes, KPIs	Percentage of New and Retired Services	Number of New Service Delivery Models

Source: Gartner
Note: KPI = key performance indicator; SOA = service-oriented architecture

Set up for acceleration

Government CIOs and their teams can leverage four digital business accelerators.

Accelerate digital in government

Digital government acceleration

Reset strategic path
Assess the urgency and readiness for further transformation and the maturity to adopt new business models, operating models and platforms.
Example: Drive data and insights deeper into your services.

Unleash force multipliers
Embrace actions that power momentum whether they are internal to the organization, such as a business model innovation workshop, or external, such as citizen demand.
Example: Run a scenario planning exercise.

Banish drags
Remove the negative forces that add friction to the business, such as supply chain disruptions or outdated processes.
Example: Adopt robotic process automation (RPA) to modernize legacy.

Redirect resources
Recapture resources from areas such as physical counters or real estate and redeploy them to digital priorities.
Example: Retire underperforming channels.

Source: Gartner

Prioritize what to accelerate

To prioritize near-term digital investments, define the urgency by categorizing investments into five speed lanes according to their strategic intent and use case and balance investments across them in a "portfolio" model:

Triage immediate priorities

Immediate direction

Postpandemic

Transformation lane: Expand the role of digital technologies in service delivery, e.g., expand and integrate citizen services, digital automation, data insights.

Fast lane: Finish digital initiatives that were in flight at the beginning of the pandemic or amplified because of it, e.g., enable and sustain distributed government workforce.

Fix-it lane: Fix "broken" parts of the business made vulnerable by the pandemic's new reality, e.g., modernize legacy systems and technology.

Slow lane: Continue at a slower pace those digital initiatives that remain relevant, but are no longer critical to the postpandemic context, e.g., continue artificial intelligence (AI) experiments.

Exit lane: Stop digital initiatives designed for needs or opportunities that no longer exist to free up resources.

Source: Gartner

Invest in future-ready capabilities

Balance near-term digital investments with longer-term aspirations. Gaining future-ready capabilities is critical, especially to build a resilient organization able to sense and respond to volatility and disruption.

Digital business acceleration is execution at speed

Longer-term capabilities

Pursue **right-scoped value,** combining incremental growth with wholesale value proposition changes.

Serve the **everything constituent** who wants everything to be in person and digital. This requires the speed and ease of digital and the hand-holding of human interaction.

Future-ready

Craft an **adaptable workforce** that adopts agile learning to shape talent to demand and leverages nontraditional workforce models.

Build a **composable technology** foundation based on a modernized data and technology core that lowers costs and provides agility.

Deliver **any-scale operations** that can flex in size or scope and across workforce models without too much impact on operating expense ratios or infrastructure.

Sustain digital momentum

Pandemic fatigue threatens to allow a backslide into suboptimal, predigital ways of working.

As organizations begin to return their people to the office, environmental cues could especially trigger old behaviors and stall digital ambitions.

To sustain momentum, government CIOs must institutionalize their new digital ways of working using systems, processes and practices and (re) commit to execute digitalization at speed.

To reinforce behavior and culture change:

- Pause, discuss and document the progress made on your digital plans.

- Evaluate what adjustments are required to maintain or accelerate digital plans.

- Teach the organization what needs to be done differently.

Three steps to prevent digital backsliding

1 **Pause** → by → **Conducting an intermortem**

2 **Evaluate** → by → **Defining the from/to journey**

3 **Teach** → using → **Changing systems, processes and practices**

Source: Gartner
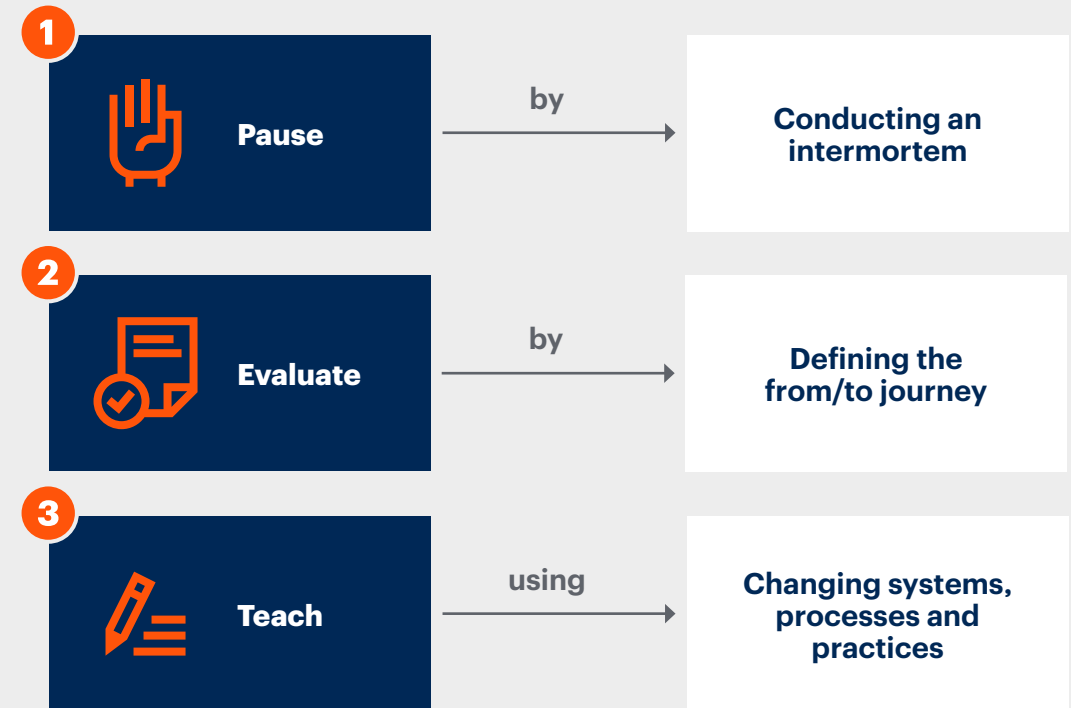
Three key priorities for government CIOs

01

Citizen needs

- Meet new citizen expectations
- Deliver breakthrough citizen experiences at scale

02

Talent

- Build, develop and retain agile talent
- Champion agile learning

03

Technology

- Invest in emerging technologies
- Aim for a scalable and secure digital platform

By 2022, half of all digital government key performance indicators will include a citizen/customer experience metric to ensure that services delivered are citizen-centric.

Source: Gartner

01

Meet new citizen expectations

Citizens are one of the main stakeholders and the focus of many of the digital initiatives undertaken by governments.

Even prior to 2020, governments were focused on improving the experience of the citizens they support, but citizens' expectations for digital services skyrocketed when the world was suddenly locked down.

The pandemic has forced governments to respond rapidly to keep citizens and stakeholders informed — making digital channels a critical means of reaching citizens as stakeholders.

Accelerating digital initiatives will be key to continuing to responding to the extensive economic and social ramifications of the pandemic — and the associated needs of citizens.

Change in citizen expectations due to COVID-19

% of government CIOs

Use of Digital Channels to Reach Customers/Citizens — 82% (2020), 81% (2021)

Use of Self-Service by Customers/Citizens — 73% (2020), 82% (2021)

Demand for New Digital Products and Services — 85% (2020), 88% (2021)

Degree of Customer Engagement (In Contrast to a Transactional Relationship) — 47% (2020), 59% (2021)

0%   50%   100%

■ 2020
■ 2021
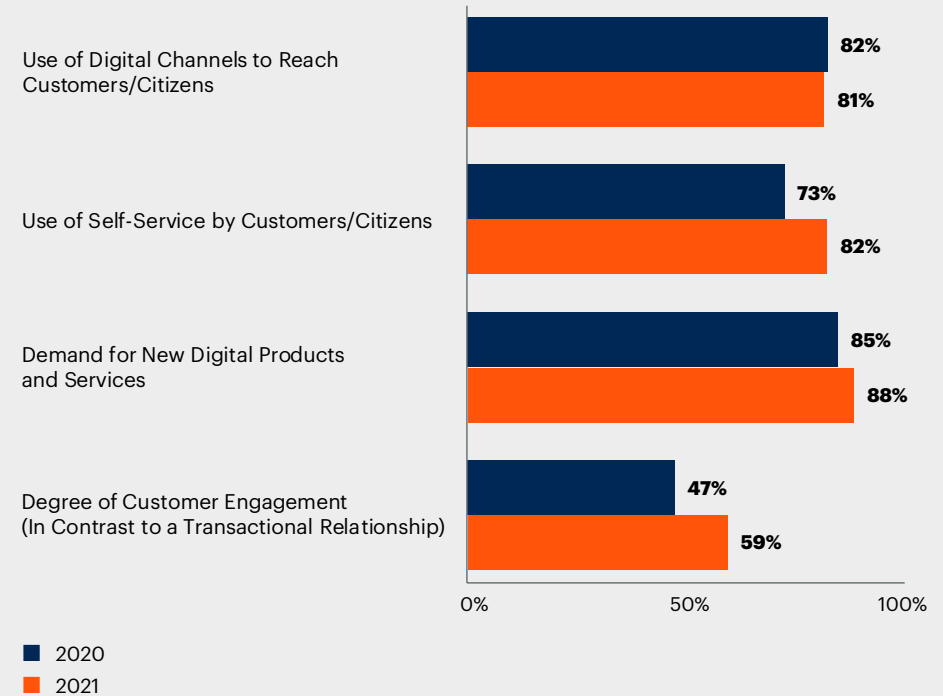
n = ~224 Government; Excludes "not sure/not applicable"
Q: How would you characterize the changes that have occurred in your enterprise as a result of the COVID-19 pandemic in each of these areas?
vs. How do you expect these aspects of your enterprise to change in 2021 compared with their status today?
Source: 2021 Gartner CIO Survey

01

Deliver breakthrough citizen experiences at scale

In an increasingly cloud-based environment, social and immersive computing scenarios have raised people's expectations for citizen or user experience (CX/UX), availability, performance, security and even business impact.

In this dynamic environment, traditional, technology-centric approaches to software quality fail to quickly deliver the innovation and breakthrough experiences required to succeed at digital government today.

Instead, government CIOs must cultivate a shift in how their people think to focus less on whether applications fulfill a long list of requirements written by a business analyst, and more on whether they deliver a compelling CX/UX.

That means moving away from the traditional technology-centric model of quality to an outside-in, citizen-driven perspective. By infusing quality into every step, from the inception of an idea through to operations, and by building links among citizen experience (CX), multiexperience (MX), UX and employee experience (EX), you build what Gartner calls digital dexterity — which rapidly drives tangible business benefits.

By 2025, organizations who invest in building digital immunity will increase customer satisfaction by decreasing downtime by 80%.

By 2023, more than 60% of governments will have tripled citizen digital services, but less than 25% will be integrated across organizations' silos.

Source: Gartner

02

Build, develop and retain agile talent

To drive the digital ambitions of the enterprise, government CIOs must develop in themselves and their people the competencies they need to ensure high-performance software delivery.

Digital leaders are snapping up in-demand talent, while also developing their people — for example to increase citizen centricity while innovating with technology.

A delivery approach based on agile and product-centric principles aligns teams with citizen and agency priorities, rapidly delivers and improves digital products, and empowers teams to make decisions — enabling the agility crucial to success with digital government.

The use of what Spotify has termed "guilds" — also known as communities of practice — is one tactic that can drive organizational learning, talent development and flexible career paths to retain that talent.

Spotify chapters and guilds

- A chapter provides personal growth and professional development. It meets regularly to discuss its subject area and to develop members' expertise.
- Guilds are lightweight communities of interest that promote collaboration to develop competencies.

Chapter Lead: Line manager for members.

Guild Coordinator: Creates an active learning space to help members to develop their skills.
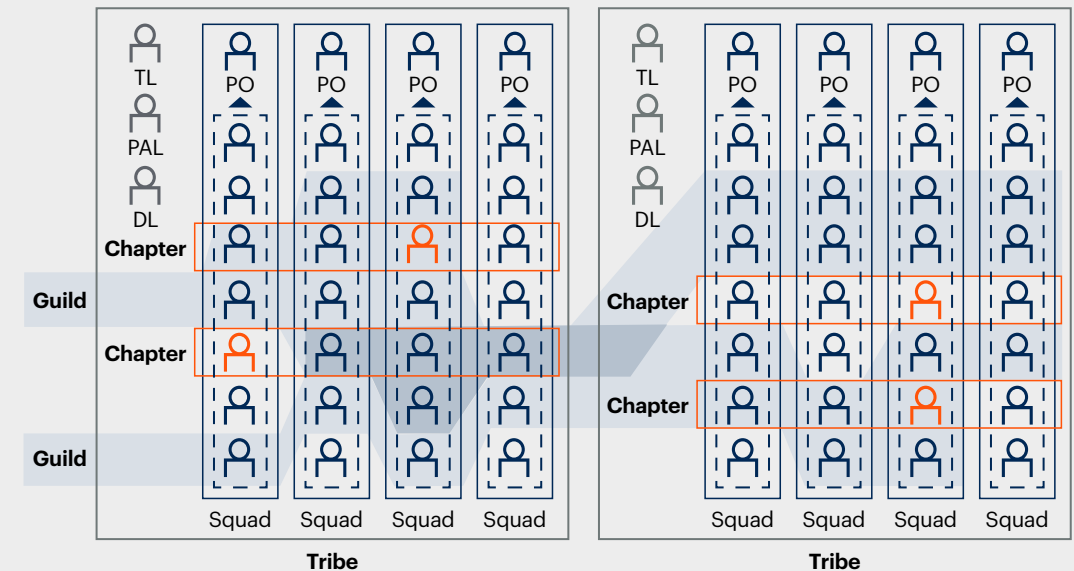
Source: Gartner
Note: TL = Tribe Lead; PAL = Product Area Lead; DL = Design Lead; PO = Product Owner

02

Champion agile learning

Team members return the investment that organizations make in the new employment deal by applying and growing their skills in service of digital acceleration. Sought-after skills include those tied to in-demand technologies and tools, such as AI and data, and "soft" leadership skills from design thinking to empathy.

Well-resourced organizations are snapping up in-demand talent, while also developing in-house teams through agile learning based on eight principles:

1. **Learning to earning.** Belief that the enterprise's financial performance is inextricable from individual advancement

2. **Motivation multiplier.** Easy access to learning and consumable content, and opportunities to apply it

3. **Just-in-time microbursts.** Short, well-designed chunks, applied immediately and practiced regularly

4. **Dynamic pathways.** Learner-directed and adapted

5. **Progressive layering.** "Skills for life," skills for a career path and skills in the latest techniques in their field

6. **Flow of value delivery.** Embedded learning in everyday work

7. **Data-driven, AI-enabled.** The right learning experience at the right moment with the right learners and teachers

8. **Socially amplified.** Social connections powering people to help one another learn and create a learning culture

The agile learning manifesto

Agile learning connects learning curves with earning curves. For employees, learning advances their career, future-proofs them against change and increases their value.

Agile Learning   **Earning Curve**

Learning Curve
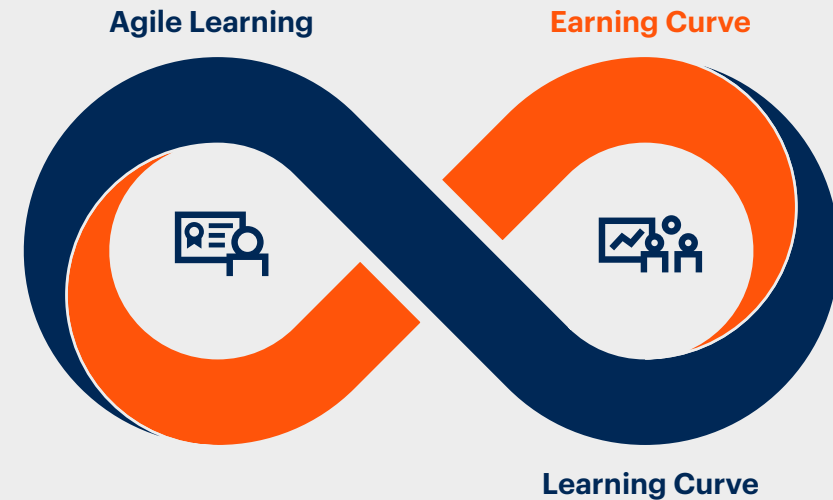
Primary values of agile learning over a more traditional training focus

✓ **Business outcomes**
over knowledge gained

✓ **Real-time embedded**
over training time offline

✓ **Growth mindset**
over current skill set

✓ **Community compounding**
over individual practicing

Source: Gartner

Invest in emerging technologies

Many government CIOs have already deployed a combination of existing and emerging technologies as part of the response to the pandemic, but most expect investment to remain strong in a range of emerging technologies.

Investments in cybersecurity, cloud services and business intelligence remain the most in-demand technology investments, which has been the case for several years.

Investment, of course, depends on government CIOs being able to secure funding — at a time when governments are heavily focused on funding recovery efforts. Even when funding is available, any perception that IT areas are spending unnecessarily will reflect poorly on the CIO.

Government CIOs will need to spend time educating their executives on the merit of the investments being made, and crafting a compelling case that links these investments to mission outcomes.

Changes in technology investments by government CIOs

Percentage of government respondents (select responses only)

Technology	Decreasing	Increasing
Cyber/Information Security	1%	58%
Cloud Services/Solutions	2%	56%
Business Intelligence/Data Analytics	2%	54%
Process Automation	2%	41%
Digital Workplace	4%	39%
Artificial Intelligence/Machine Learning	1%	36%
Software Development or Upgrades	13%	36%
Infrastructure and Data Center	34%	30%
Enterprise Resource Planning	11%	15%
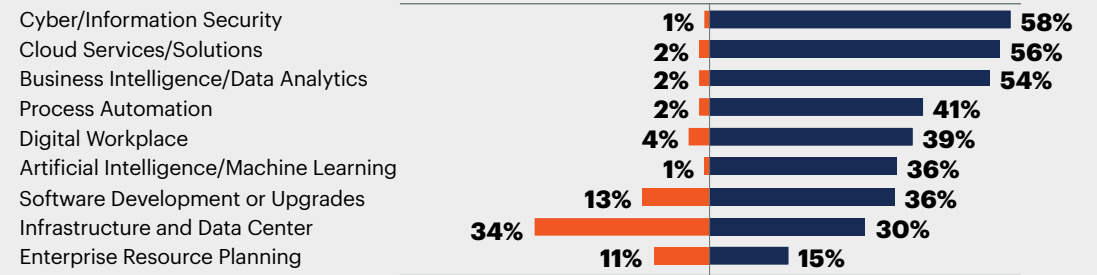
■ Percentage of Respondents Decreasing Investment
■ Percentage of Respondents Increasing Investment

n varies by question, Government respondents; Excludes "not sure"

Q1: What are the technology areas where your enterprise will be spending the largest amount of new or additional funding in 2021 compared with 2020?

Q2: What are the technology areas where your enterprise will be reducing funding by the highest amount in 2021 compared to 2020?

Source: 2021 Gartner CIO Survey

Note: Showing technologies with at least 10% of government respondents reporting plans to increase spending.

03

Aim for a scalable and secure digital platform

The most successful digital businesses use a wider range of products, architectural techniques and services than others. Progressive software engineering leaders must therefore champion the move from legacy monolithic systems to the kind of flexible digital foundation that digital leaders employ.

A composable digital platform flexes with today's ever-changing business demands, allowing you to switch building blocks in and out as teams assemble or reassemble business processes and citizen or employee experiences.

Composable digital platforms are more fitting for modern digital experiences — and reflect the reality that the IT organization is no longer the sole provider of information and technology delivery.

The challenge for government CIOs is to envisage and enable the composable architecture that brings digital capabilities closest to the point of value. You'll also need to equip people with the tools and practices they need to innovate, regardless of where they sit in the organization.

New model for enterprise I&T including the digital foundation

| Operations | Channel | Product |

Fusion teams

Communities of practice (RPA, analytics, AI, Scrum, etc.)

Cross-cutting services (EA, cybersecurity, risk, etc.)

Closer to the customer or operations

CX enablement platforms
(e.g., customer portals, omnichannel)

Enterprise systems
(e.g., ERP, HR, finance, supply chain, BI)

Modernized digital foundations

Data and analytics platforms
(e.g., self-service data products, big data platform, ML, AI engines)

Ecosystem platforms
(e.g., API development, API marketplaces, integration)

Closer to corporate IT

Technology development platforms
(e.g., DevOps tooling, low-code/no-code, access management, RPA tooling, cloud-based scalable infrastructure)

■ IT department ■ Business areas

Source: Gartner

Note: AI = artificial intelligence; BI = business intelligence; CX = customer experience; EA = enterprise architecture; ML = machine learning; RPA = robotic process automation

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Digital Government in Action — What's Working and Who Is Doing It Well

Dean Lacheca

Digital Initiative Impact Continues to Grow
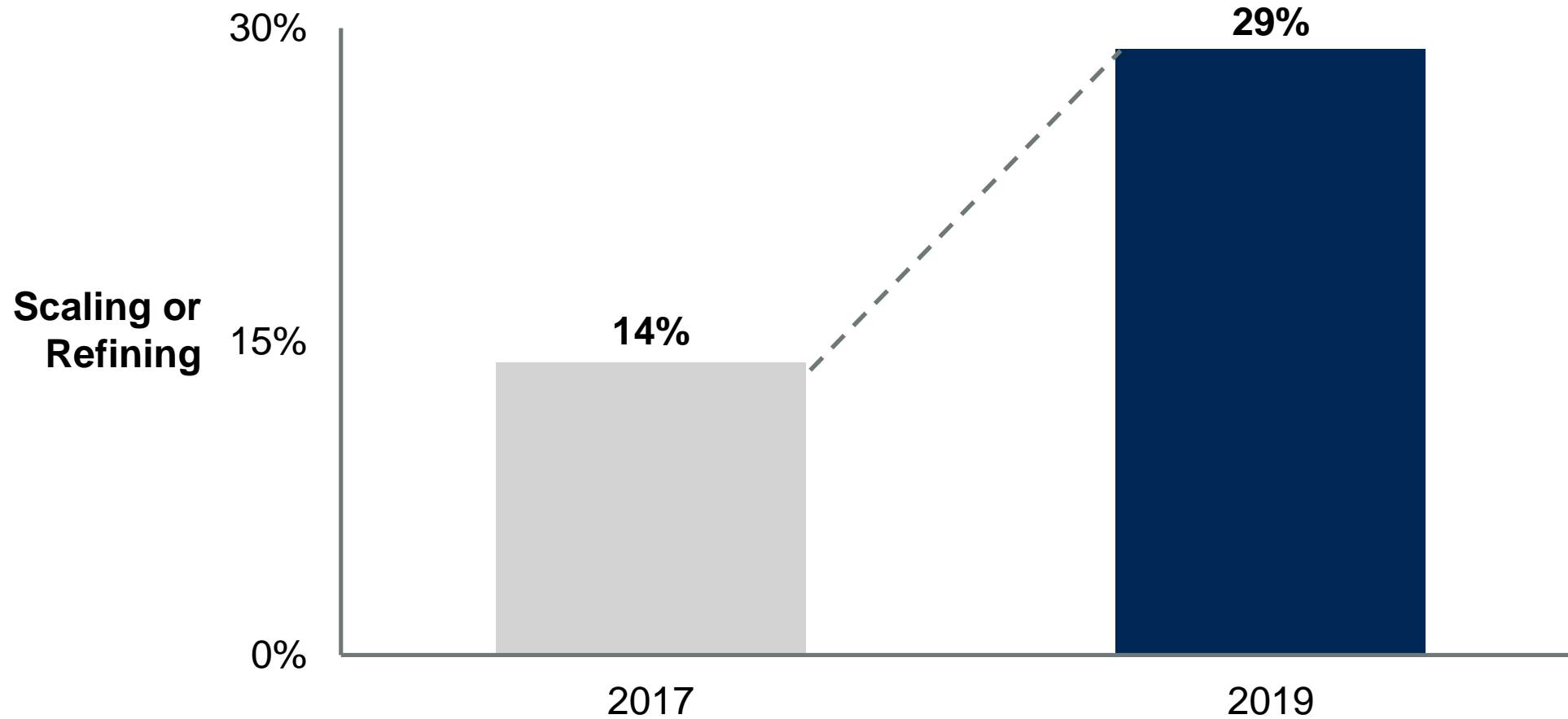
Scaling or Refining

- 2017: 14%
- 2019: 29%

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"**Why** is digital having a bigger impact in some governments compared to others?"

Government CIO

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NYC Department of Social Services

Digital for Good

Opportunity:
DSS ITS addresses Mayor's goal of reducing the population of street homelessness by introducing new technology aimed at transitioning them to services and permanent housing

Action:
StreetSmart — DSS ITS partners with DHS, to coordinate efforts of the department and providers. ITS lead DHS implementation using:
- Human-centered design
- Co-created with ecosystem partners
- Product-centric iterative delivery
- Integrated shared platforms
- Targeted analysis of shared data

Outcomes:
StreetSmart is now a key enabler of the ecosystem supporting the reduction in homeless.

Common Success Factors in Digital Government

Human-Centered
Design

Innovative
Data Use

Building Platforms
and Partnerships

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What Are Government Doing?

Services Delivery
User-Centric
Personalized
Predictive

Digital Foundations
Modernizing
Streamlining and
Augmenting

Data-Centric
Insight-Driven
Predictive
Innovative
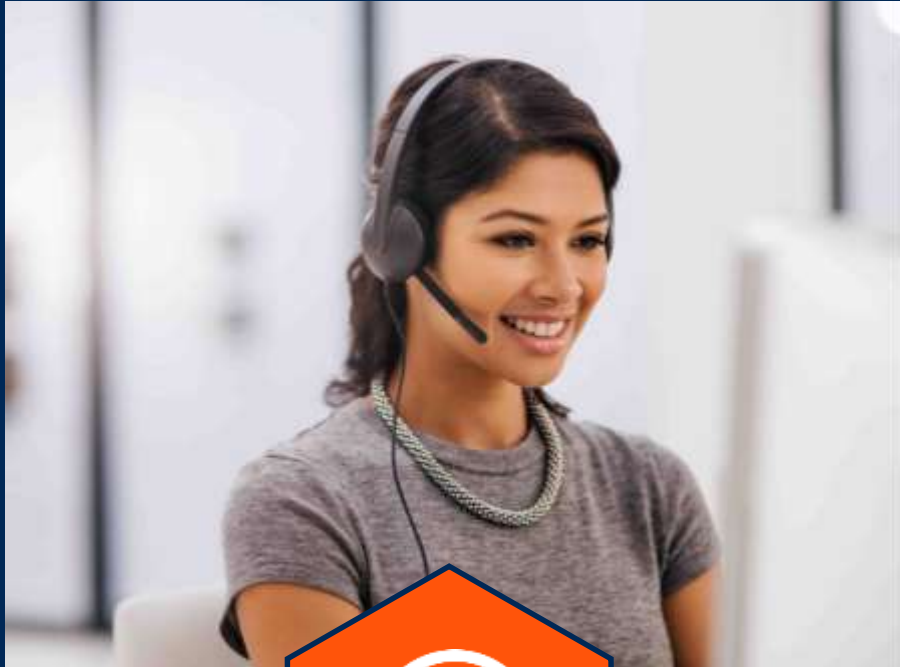
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Examples of Evolving Governments Service

DHS Australia
Creating a Citizen-Centric,
Digital-Experience
Platform

Las Vegas
Improving City
Park Safety
Predicting
Traffic Problems

Allegheny County
Predictive
Child Safety

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Use Human-Centered Design to Progress

☐ Take the time to understand the civic moment you support. Use HCD techniques to map the journeys and model optimal outcomes.

☐ Know the stakeholders; why do they care and what does success feel like to them?

☐ Ideate: Don't be limited by the current paradigm. Start a **"It might be crazy but …"** wall.

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Digital Changing Everything in Government

What Works Today:

- **Modernization** Underway Everywhere
- Digitally Driven Business Process **Efficiency, Transparency and Transformation.**
- Process **Automation**

What Is Emerging:

- Platforms Enabling New **Business and Operating Models**
- Workforce **Augmentation**
- Increased Organization **Agility**
- **Connected** and **Collaborative** Digital Ecosystems

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Examples of Government Taking a Platform Approach

State of Ohio
A shared platform to customer-centric and data-driven

Utah State
Innovating with a Digital Government Technology platform

Singapore
Public API gateway sensor platform Digital Twin

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Platforms and Partners Change Everything
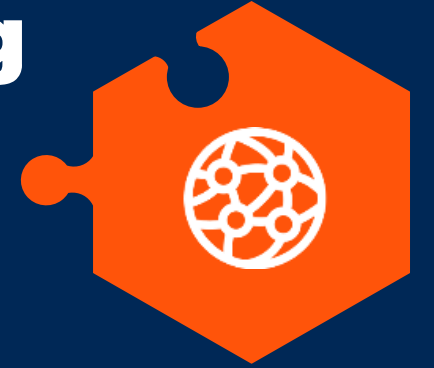
☐ Model the ecosystem today and how it can be empowered or disrupted

☐ Identify the foundations for digital transformation, use them as the blueprints for the your digital government technology platforms

☐ Explore new business and operating models to further the public purpose, use real-world data and examples from other industries to explain how they would work

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How Data-Centric Is Changing Government

What Works Today:

- Open Data Programs
- Improved Data **Quality** and **Diversity**
- Active Data **Literacy** Programs
- Insight-Driven Decision Making

What Is Emerging:

- Embed and Predictive **Analytics**
- API-Driven **Innovation**
- **Augmentation** Through AI/Machine Learning

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Examples of Government Leveraging Data

Indiana State

Transparency
Dashboards
Data hub

Western Australia

Cloud-Based
AI/ML Optimize
Investigations

US Health and Human Services

Advanced
Analytics-Based
Fraud Detection

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Enable and Encourage Innovative Use of Data

☐ Build data literacy — it is essential.

☐ Empowering agility and innovation through API and self-serve analytics.

☐ Build machine learning capabilities to boost the value of your data — Start with readily available platform AI options.

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Recommendations

- ✓ Where should you start:
  - Practice human-centered design starting today.
  - Explore innovative data reuse to join up government systems.
  - Take the first steps toward the digital foundations needed for a digital government technology platforms.

- ✓ Already advanced? We've got you covered:
  - Expand new, proactive service delivery models to all mission areas.
  - Venture into predictive service delivery, beware of caveats.
  - Leverage platforms for partnerships beyond the public sector.

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Recommended Gartner Research

▶ **Introducing the Gartner Digital Government Maturity Model 2.0**
Andrea Di Maio and Rick Howard (G00334525)

▶ **Government CIOs Must Assess Urgency and Readiness to Lead Digital Transformation**
Arthur Mickoleit (G00383531)

▶ **Government CIO Essentials: Use Human-Centered Design to Build Better Services**
Dean Lacheca (G00425275)

▶ **CIOs Can Transform Government Services by Scaling Digital Up, Across and Out**
Dean Lacheca (G00348344)

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Harvard Business Review

Digital Transformation

Digital Transformation Is Not About Technology

by Behnam Tabrizi, Ed Lam, Kirk Girard, and Vernon Irvin

March 13, 2019
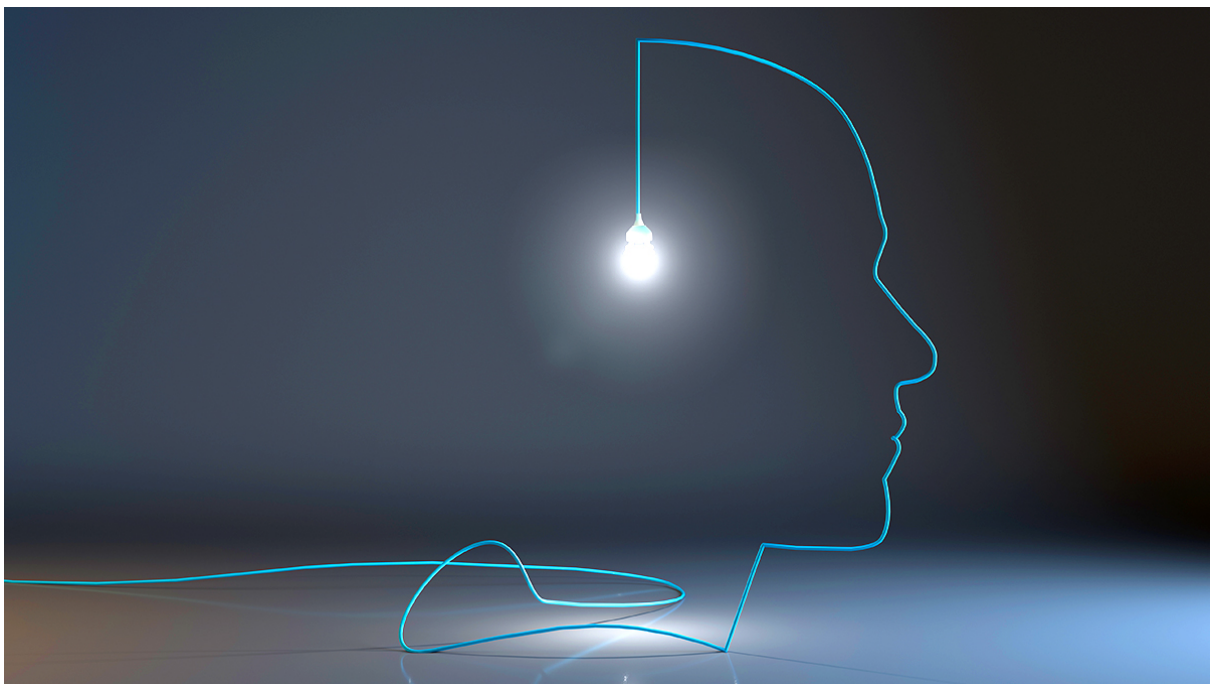
Colin Anderson Productions pty ltd/Getty Images

Summary.   Companies are pouring millions into "digital transformation" initiatives — but a high percentage of those fail to pay off. That's because companies put the cart before the horse, focusing on a specific technology ("we need a machine-learning strategy!") rather than... **more**

A recent survey of directors, CEOs, and senior executives found that digital transformation (DT) risk is their #1 concern in 2019. Yet 70% of all DT initiatives do not reach their goals. Of the $1.3 trillion that was spent on DT last year, it was estimated that $900 billion went to waste. Why do some DT efforts succeed and others fail?

Fundamentally, it's because most digital technologies provide *possibilities* for efficiency gains and customer intimacy. But if people lack the right mindset to change and the current organizational practices are flawed, DT will simply magnify those flaws. Five key lessons have helped us lead our organizations through digital transformations that succeeded.

Lesson 1: Figure out your business strategy before you invest in anything. Leaders who aim to enhance organizational performance through the use of digital technologies often have a specific tool in mind. "Our organization needs a machine learning strategy," perhaps. But digital transformation should be guided by the broader business strategy.

At Li & Fung (where one of us works) leaders developed a three-year strategy for serving a marketplace in which mobile apps were just as important as bricks-and-mortar stores. They chose to focus their attention in three areas: speed, innovation, and digitalization. Specifically, Li & Fung sought to reduce production lead times, increase speed-to-market, and improve the use of data in its global supply chain. After concrete goals were established, the company decided on *which* digital tools it would adopt. Just to take speed-to-market as an example, Li & Fung has embraced virtual design technology and it has helped them to reduce time from design to sample by 50%. Li & Fung also helped suppliers to install real-time data tracking management systems to increase production efficiency and built *Total Sourcing,* a digital platform that integrates information from customers and vendors. The finance department took a similar

approach and ultimately reduced month-end closing time by more than 30% and increased working capital efficiency by $200 million.

There is no single technology that will deliver "speed" or "innovation" as such. The best combination of tools for a given organization will vary from one vision to another.

Lesson 2: Leverage insiders. Organizations that seek transformations (digital and otherwise) frequently bring in an army of outside consultants who tend to apply one-size-fits-all solutions in the name of "best practices." Our approach to transforming our respective organizations is to rely instead on insiders — staff who have intimate knowledge about what works and what doesn't in their daily operations.

Santa Clara County in California (where one of us works) provides an example. The Department of Planning and Development was re-engineering work flows with the goal of improved efficiency and customer experience. Initially, external consultants made recommendations for the permit-approval process based on work they themselves had done for other jurisdictions, which tended to take a decentralized approach. However, customer-facing staff members knew, based on interactions with residents, that a more unified process would be better received. Therefore, Kirk Girard and his team heavily adapted the recommended tools, processes, diagrams, and key elements of the core software as they redesigned the work flow. As a result, permit processing time was cut by 33%. Often new technologies can fail to improve organizational productivity not because of fundamental flaws in the technology but because intimate insider knowledge has been overlooked.

Lesson 3: Design customer experience from the outside in. If the goal of DT is to improve customer satisfaction and intimacy, then any effort must be preceded by a diagnostic phase with in-depth input from customers. The staff of Santa Clara County's

Department of Planning and Development conducted more than ninety individual interviews with customers in which they asked each customer to describe the department's strengths and weaknesses. In addition, the department held focus groups during which they asked various stakeholders – including agents, developers, builders, agriculturalists and crucial local institutions like Stanford University – to identify their needs, establish their priorities, and grade the department's performance. The department then built the input into their transformation. To respond to customer requests for greater transparency about the permit approval process, the department broke down the process into phases and altered the customer portal; customers can now track the progress of their applications as they move from one phase to the next. To shorten processing time, the department configured staff software so that it would automatically identify stalled applications. To enable personalized help, the department gave Permit Center staff dashboard control of the permit workflow. Leaders often expect that the implementation of one single tool or app will enhance customer satisfaction on its own. However, the department's experience shows that the best way to *maximize* customer satisfaction is often to make smaller-scale changes to different tools at different points of the service cycle. The only way to know where to alter and how to alter is through obtaining extensive and in-depth input from the customers.

Lesson 4: Recognize employees' fear of being replaced. When employees perceive that digital transformation could threaten their jobs, they may consciously or unconsciously resist the changes. If the digital transformation then turns out to be ineffective, management will eventually abandon the effort and their jobs will be saved (or so the thinking goes). It is critical for leaders to recognize those fears and to emphasize that the digital transformation process is an opportunity for employees to upgrade their expertise to suit the marketplace of the future.

One of us (Behnam) has coached over twenty thousand employees from multiple organizations through the digital transformation process (he has also consulted with the organizations mentioned in this article). He often encounters participants who are skeptical of the entire operation from the get-go. In response, he developed an "inside-out" process. All participants are asked to examine what their unique contributions to the organizations are, and then to connect those strengths to components of the digital transformation process — which they will then take charge of, if at all possible. This gives employees control over *how* the digital transformation will unfold, and frames new technologies as means for employees to become even better at what they were already great at doing. At CenturyLink, where one of us works, the sales team had been considering adopting artificial intelligence to increase their productivity. Yet, *how* AI should be deployed remained an open question. Ultimately, the team customized an AI tool to optimize each salesperson's effort by suggesting which customers to call, when to call them and what to say during the call in any given week. The tool also contained a gamification component, which made the selling process more interesting. Vernon Irvin, who watched this process from the inside, observed that it made selling more fun, which translated into an increase in customer satisfaction – and a 10% increase in sales.

Lesson 5: Bring Silicon Valley start-up culture inside. Silicon Valley start-ups are known for their agile decision making, rapid prototyping and flat structures. The process of digital transformation is inherently uncertain: changes need to be made provisionally and then adjusted; decisions need to be made quickly; and groups from all over the organization need to get involved. As a result, traditional hierarchies get in the way. It's best to adopt a flat organizational structure that's kept somewhat separate from the rest of the organization.

This need for agility and prototyping is even more pronounced than it might be in other change-management initiatives because so many digital technologies can be customized. Leaders have to decide on what apps from which vendors to use, which area of business best benefit from switching to that new technology, whether the transition should be rolled out in stages, and so on. Often, picking the best solution requires extensive experimentation on interdependent parts. If each decision has to go through multiple layers of management to move forward, mistakes cannot be detected and corrected quickly. Furthermore, for certain digital technologies, the payoff only occurs after a substantial portion of the business has switched to the new system. For example, a cloud computing system designed to aggregate global customer demand can only generate useful analytics when stores in different countries all collect the same type of data regularly. This requires ironing out differences in existing organizational processes across different regions. If the details of how a new technology will be used are chiefly developed by employees from one country, they might not be aware of the potential incompatibilities.

Working with Li & Fung, Behnam helped to create six cross-functional teams, each staffed by employees from different offices in Hong Kong, mainland China, Britain, Germany and the U.S. These teams led different stages of the digital transformation. Since the structure of these teams was flat, they were able to present ideas to and obtain input from Ed Lam (CFO) and heads of business units quickly. This allowed the teams to experiment with new ideas about how innovative data structure, analytics, and robotic processing could best be integrated. Furthermore, because new proposals were vetted by employees from different country offices and different functions, these teams were able to foresee problems with implementation and were able to address them before the entire organization fully adopted the new technologies.

Digital transformation worked for these organizations because their leaders went back to the fundamentals: they focused on changing the mindset of its members as well as the organizational culture and processes *before* they decide what digital tools to use and how to use them. What the members envision to be the future of the organization *drove* the technology, not the other way around.

BT

Behnam Tabrizi has been teaching Leading Organizational Transformation at Stanford University's Department of Management Science and Engineering and executive programs for more than 20 years. An expert in organizational and leadership transformation, he is the managing director of Rapid Transformation, LLC. Behnam has written six books, including Rapid Transformation (HBR Press, 2007) for companies and The Inside-Out Effect (Evolve Publishing, 2013) for leaders. Follow him on Twitter at @TabriziBehnam.

EL

Ed Lam is CFO of Li & Fung Ltd.

KG

Kirk Girard is former Director of Planning and Development in Santa Clara County.

VI

Vernon Irvin is president of Government, Education, and Mid & Small Business Division at CenturyLink.

Infrastructure Services Sourcing Strategy: Practical Principles for Dynamic Insourcing Versus Outsourcing

FOUNDATIONAL   **Refreshed:** 2 March 2021 | **Published:** 9 July 2018   **ID:** G00349519

Analyst(s): Claudio Da Rold, Vikas Bhardwaj, Guido Repaci

Defining what to outsource versus what to keep in-house is a complex task. Sourcing and vendor management leaders should employ these strategic yet practical principles to rapidly and successfully identify outsourcing options and define how to optimally bundle and dynamically manage IT services.

> **FOUNDATIONAL DOCUMENT**
> This research is reviewed periodically for accuracy. Last reviewed on **2 March 2021**.

Key Challenges

- In a fast-changing digital world, many sourcing leaders are puzzled when trying to answer the strategic question: What shall we insource or outsource?

- Facing countless delivery models and market offerings, sourcing leaders are expected to identify the appropriate service bundles that will maximize cost optimization and business value but often find themselves unable to do so.

- The analysis of sourcing options is often done without enough insight into internal capabilities and gaps, service financials and related price trends or practical information about providers' portfolios, capabilities, transformational processes and real clients' ROI and satisfaction.

- The linear execution of a traditional sourcing process (from strategy to transition) can easily last a year or longer. Even in the best cases, this causes a static approach to sourcing, with providers delivering old SOWs that soon become misaligned to customers' business strategies.

Recommendations

Sourcing and vendor management leaders involved in infrastructure services sourcing transformation and execution must:

- Use a repeatable and dynamic decision-making process to analyze relevant sourcing options for each business initiative and service area, starting with the objectives: the why and the when.

- Identify sourcing options that are most relevant for each business initiative by analyzing options and principles for the next key sourcing questions (the what, the who and the where).

- Select a few credible alternative scenarios by applying further sourcing principles and service bundles (the how) to each single initiative. Execute each single initiative as part of an overarching strategic view (e.g., the digital platform infrastructure). Dynamically manage the balance of customer satisfaction, end-to-end digital infrastructure management, automation and cost-optimization initiatives with deals and providers' success.

Introduction

In order to remain competitive in the digital world, organizations face a need for acceleration on their cloud strategies, IoT investments and digital business transformation. This makes traditional sourcing strategies obsolete because IT infrastructures are becoming hybrid infrastructures spanning traditional data centers, private and public cloud, and Edge computing.[1] Meanwhile, digital business transformation is supported by technology platforms in five areas (see Note 1) with rising complexity, time-to-market requirements, security and compliance issues.[2]

Part of the complexity of sourcing strategy decisions is the difficulty of linking business objectives, many different delivery models and a wide range of market options into a bundled approach. How to link business objectives to sourcing strategies is the matter of the first two steps of a bimodal sourcing strategy (see Note 2) and has been covered in "Infrastructure Services Sourcing Strategy: Key Reasons to Outsource."

This note will instead introduce the main options for a sourcing strategy, focusing primarily on infrastructure services and how to identify viable bundles and scenarios. Following notes will explain how to evaluate such alternatives and how to align each sourcing decision toward the implementation of a digital platform spanning the hybrid IT infrastructure.

Practical Principles for Dynamic Insourcing Versus Outsourcing

Why

What   Who   Where   How

When

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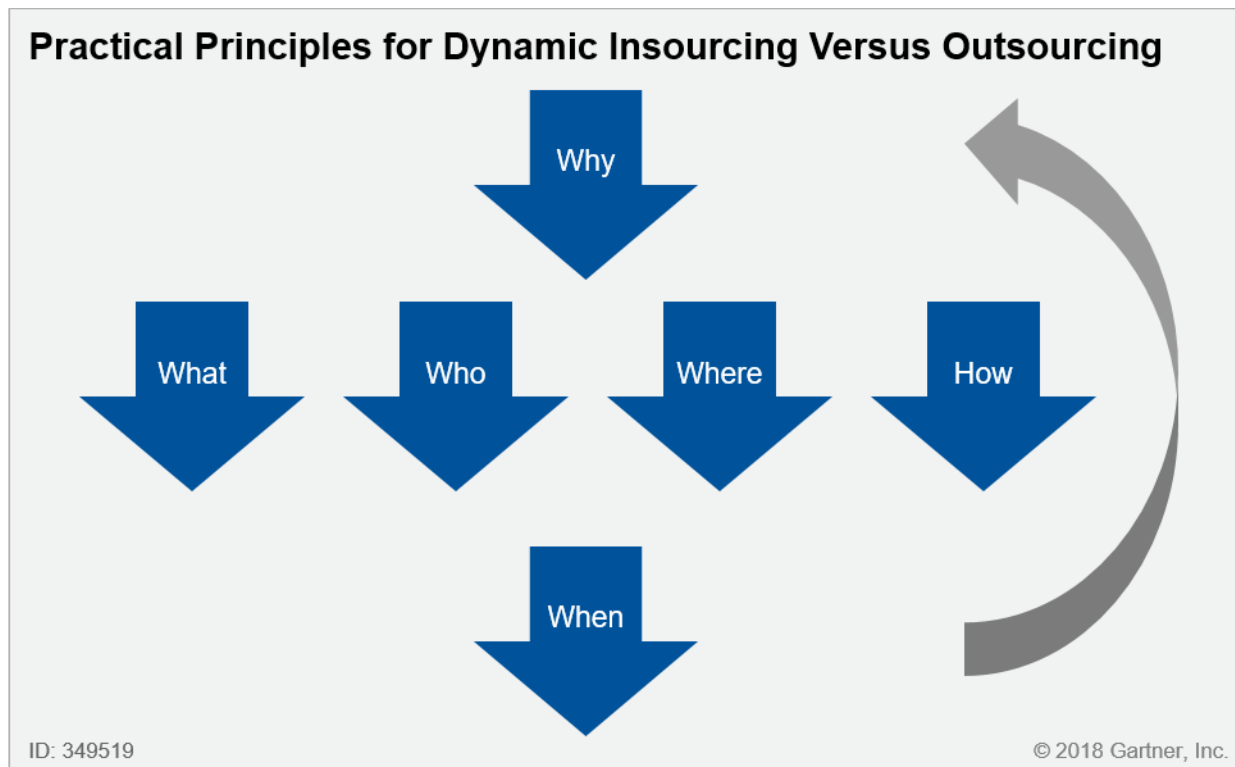
Source: Gartner (July 2018)

Analysis

Use a Repeatable and Dynamic Decision-Making Process to Analyze Options for Each Sourcing Initiative or Service Area, Starting With the Why and the When

While customers' organizations face challenges on how to evolve toward real-time performance and the vision of an end-to-end managed digital platform, at the same time many sourcing leaders are expected to answer these apparently simple questions in a timely manner:

- What shall we insource or outsource?

- What are the sourcing options that we must evaluate?

- Which are the service bundles that will maximize cost optimization and business value?

- How can we source the capabilities that are requested to make each business initiative a success?

- How can we put together a sourcing strategy that enables us to evolve toward the digital business platform infrastructure?

Historically[3] in versus out decisions have been taken across a linear framework of key sourcing questions:

1. Why establishes consensus of expectations and objectives of the business initiative or service area requiring a sourcing decision.

2. What identifies the target processes, capability or service for improvement and delivery.

3. Who identifies the best source of internal or external supply to accomplish the specific objectives.

4. How evaluates alignment of initiative and objectives to the optimum service delivery model.

5. Where evaluates the options associated with the best location for service delivery.

6. When applies to the timing associated to the initiative, now also forcing decisions associated to skills availability and traditional versus agile approaches (Mode 1 versus Mode 2).

Currently, the same questions must be analyzed in the context of much deeper innovation (driving uncertainty and agile approaches) and much faster global transformation (driving the need for delivery industrialization and bimodal). Therefore, the decision-making process — while still based on the same fundamental questions — now must be executed in a more agile, nonlinear way.

To identify the right sourcing approach for each business initiative and service area while also developing a longer-term dynamic sourcing strategy (see "Manage Your Bimodal Sourcing Strategy as a Dynamic Portfolio of Traditional and New Sourcing Options"), sourcing leaders should:

▪   Implement and institutionalize a dynamic, repeatable decision-making model to identify relevant sourcing options by leveraging the process and the six key questions reported in Figure 1.

▪   Identify key drivers, scope, SMART objectives and high-level financials of each sourcing initiative (the why and the when) as well as the most appropriate selection process, as described in related research (see "Infrastructure Services Sourcing Strategy: Key Reasons to Outsource," cited above).

▪   Answer the remaining key sourcing questions by leveraging the options and practical principles detailed in this note to dynamically bundle or unbundle services to satisfy rapidly evolving business and IT requirements.

Identify the Sourcing Options That Are Most Relevant for Each Business Initiative by Analyzing the Next Key Questions (the What, the Who and the Where)

Once you have evaluated the why and the when of a business initiative, you can start to identify the sourcing options that can best fit such an initiative and be part of the final bundle of internal or external capabilities, skills and services. To do that, we have listed in the following table the most-used sourcing options with practical principles of when to use or not to use, available examples and other information like reference satisfaction or average market term or contract value.

Table 1 explores the options associated with the what, e.g., the service or capability areas that are most often outsourced, with quantitative information about the average contract term and average customer satisfaction.

Table 1. The What: Typical Managed Services Sourcing Functions (Service Towers)

Service Component	Average Market Contract Term in Years	Average Client Satisfaction (scale of 1-5 where 1 = least satisfied and 5 = most satisfied)	Example
Email/Messaging	4.4	3.5	Sourcing of email and messaging services, for example O365 or similar cloud office services
Data Center Mainframe Application Servers	5.0 4.0	3.1 3.1	Managed service relationships, often spanning both data centers and other hybrid IT infrastructure services[4]
WAN/LAN/Telecom	4.1-4.2	3.1-3.3	Outsourcing of telecommunication services either managed by network service providers (NSPs) or managed service providers (when bundled)
Service Desk	4.1	3.1	Provision of outsourced IT service and help desk[5]
Workplace Services	4.1	3.0	Provision of end user support and managed workplace services, inclusive of digital workplace transformation[6]
File/Print Support	4.1	3.2	Management of file and print services for distributed or centralized environments
Application Development	3.0	3.1	Project work, application development, either Mode 1 (traditional waterfall developments) or Mode 2 (agile, scrum, Kanban)
Application Maintenance	3.2	3.1	Maintenance and support of existing application, most often in Mode 1 and near/offshore delivered

Source: Gartner (July 2018) and Key Metrics 2018

Please be aware that a large number of contractor relationships and transformation or project-oriented relationships (see Table 2) are often mistaken for outsourcing. These are in fact sourcing options (about the how) while not being ongoing managed services (e.g., an outsourced service).

As such, Table 2 explores the options associated to the who, e.g., the best source of internal or external supply to accomplish specific objectives.

Table 2. The Who: Internal Versus External Source Options

Source Option	Description	Practical Principles: When to Use	Practical Principles: When Not to Use	Examples
Internal Employees/ Internal Delivery (e.g., in house or insourcing)	Leverage only internal resources (employees) for service delivery	■ Strategic investment on skills ■ When change or outcome is unpredictable ■ Highly confidential information or capability ■ Need for high engagement and loyalty ■ Long-term requirements — stable capabilities	■ Short-term, peak requirements ■ Obsolete skills, capabilities and competences ■ Noncore, nondifferentiating activities ■ Predictable outcomes and routine activities (when automation, managed or cloud services are available)	■ Highly confidential and core-competency-related initiatives ■ Many organizations are selectively reinsourcing specific skills and hiring analytics and IoT experts[7] ■ Most organizations are now implementing RPA and IA to move repetitive tasks from labor to automation
Contractors/ Staff Augmentation (see Note 4)	Augment the organizational capabilities with selective skills and capabilities sourced externally	■ Short-term requirements ■ Peak requirements (not addressed in form of cloud or managed service) ■ Outcome is unpredictable ■ Strategic skills (with parallel internal investment)	■ Long-term requirements ■ Core and differentiating activities ■ Not as a replacement for managed and cloud services when available	■ Technology specific or niche skillsets required for project/program/ transformation initiatives not available within the organization ■ Independent validation of key decisions and roadmap aligned with industry best practices ■ On average, 21% of IT resources are contractors, with a peak of 33% in telecommunications companies[8]
Program, Projects or Transformation Engagements (professional services)	Alignment of the initiative with tactical/ transactional solution as projects. Synergy of portfolio of projects into a program to	■ Short- to medium-term transitional requirements ■ Turnkey engagements	■ Long-term requirements ■ Not as a replacement for managed and cloud services when available	■ Digital workplace transformation ■ Cloud first strategy ■ Legacy/cloud-enabled ERP implementation program

Source Option	Description	Practical Principles: When to Use	Practical Principles: When Not to Use	Examples
	achieve the strategic transformational objective of the initiative	■ Peak activities with a defined outcome ■ Agile activities with unpredictable outcomes	■ Not a replacement of internal employee for unpredictable/high engagement and loyalty required	■ Project to add features/capabilities to an existing system On average, PACE layer for project spending is of 17% for Innovation, 28% differentiation and 55% for systems of record/run[9] 53% of projects are waterfall and 47% are other methods (agile, scrum …)[10]
Managed Services (aka outsourcing)	Outcome-based sourcing for industrialized services with predictable volumes and service levels	■ Long-term requirements for stable delivery with ■ Customization or differentiation — predictable outcomes ■ Evolution toward industrialized services with a component of managed service	■ Too much variable requirements ■ Stable requirements and variable consumption (better to use cloud services) ■ Commonly available cloud services ■ Peak requirements for specific skills — rapid innovation	■ Data center operations managed services ■ Service desk managed services ■ Network management ■ End-user support

Source: Gartner (July 2018)

Since capabilities, skills and services can be sourced locally or on a global perspective, Table 3 provides an analysis of the most common geographical delivery options, helping to answer the where, e.g., options associated with the best location for service delivery.

Table 3. The Where: Local Versus Globally Delivered Source Options

Source Option	Description	Principle When to Use	Principles When Not to Use	Example
Local/on-site	Skills and services are delivered at client site or a nearby location	■ High-proximity requirements ■ Client-provider intimacy required ■ Fast-changing requirements, Mode 2 innovation	■ Economies of scale/scope ■ Linear processes, documented development ■ Industrialized services	■ Architectural and technology consulting ■ On-site support for HA systems ■ Touch services like field services, IMAC and desk-side support ■ High-end consulting ■ New products: MVS ideation and prototypes ■ Multidisciplinary collaboration (business, marketing, IT, partners, customers)
Onshore/rural shore (e.g., low-labor-cost areas of the same country)	Skills and services are delivered within the client country — possibly in lower-cost labor areas[11]	■ Cultural proximity, vertical specific competences ■ Changing requirements and bimodal innovation ■ High compliance requirements	■ Need for strong economies of scale/scope ■ Fast-changing requirements	■ Service desk with high cultural alignment ■ Centers of competence with specific technology or business understanding ■ Application maintenance and support from low-cost location inside the same business environment and culture
Near shore	Skills and services are delivered from a lower-labor-cost country in the same region or continent[12]	■ Acceptable mix of cultural proximity, vertical-specific competencies and low cost ■ Globally delivered agile — regional compliance requirements (e.g., GDPR)	■ Need for top economies of scale/scope ■ Fast-changing requirements	■ Remote management with limited time zone difference, same cultural or business environment or similar compliance (e.g., GDPR) requirements ■ Project or products delivery with an optimal balance between proximity and efficiency
Offshore and global delivery	Skills and services are delivered from the lowest-labor-	■ Need for top economies of scale/scope	■ High-proximity requirements	■ Globally delivered remote infrastructure management

Source Option	Description	Principle When to Use	Principles When Not to Use	Example
	cost areas of the world[13]	■ Access to large-scale pools of resources	■ Client-provider intimacy Fast-changing requirements	■ Technology centers of competence ■ Level 2 and Level 3 support on specific technology ■ Massive application maintenance/ development and infrastructure management from low-cost regions
Cloud services	Cloud services delivered with a standardized/ industrialized approach	■ Cloud capability has an high fit for purpose ■ Scalability and scope flexibility for the same purpose ■ Highly industrialized solutions or services	■ High customization required ■ Client-provider intimacy	■ IaaS ■ PaaS ■ SaaS ■ BPaaS

Source: Gartner (July 2018)

Sourcing leaders involved in infrastructure services sourcing transformation and execution must:

■ Evaluate each of the typical service sourcing functions (the what) as a potential scope for sourcing decisions by leveraging the information provided in Table 1, also in alignment with its typical time frame (part of the when question).

■ Select the most appropriate mix of internal and external sourcing options (the who) for each sourcing initiative by leveraging Table 2 and the best geographical mix (the where), leveraging Table 2.

■ Start identifying the sourcing, delivery and service options that best fit with the requirements of each sourcing initiative and shape the potential alternative approaches.

Select a Few Credible Alternative Scenarios by Applying Further Sourcing Principles and Service Bundles (the How) to Each Single Initiative

Now it's time to look at the sourcing of each initiative in terms of the fit with the existing or evolving holistic sourcing strategy by applying additional practical principles related to what cannot be

outsourced, new requirements for emerging competences and skills, factors influencing the in versus out decision, bundles and sourcing models.

What to never outsource. Gartner sourcing research already identified the most important capabilities or skills that should not be entirely outsourced.[14] They are:

- Ability to govern vendors and providers (vendor management), an obvious core competence when leveraging increasing amounts of external services (i.e., don't outsource your VMO).[15]

- Ability to manage the end-to-end service outcome and your vendors in a multisourced environment (multisourcing and service management) is a core and critical competence of which only the performance management part can be outsourced by using an MSI sourcing model.[16]

- Critical and core skills and competencies, inclusive of IT leadership, enterprise architecture development, business enhancement and demand management and technology advancement. Note that technology skills and competencies are changing fast, as reported in the model Value/ Differentiation versus Competency/Performance (see Figure 1 and "New Bimodal Sourcing Strategy Options Enable Successful Digital Businesses").

Figure 2. Emerging Digital Critical Capabilities and Skills

Emerging Digital Critical Capabilities and Skills

- Value and Differentiation (y-axis)
- Competence and Performance (x-axis)
- Buy and Invest
- Make and invest
- Buy, Outsource
- Retain, Spin Off

Legend:
- ★ (red) Invention — Pilot Phase
- ★ (green) Large-Scale Build
- ★ (yellow) Lead — New Core Capabilities
- ★ (blue) Optimize — External Leverage

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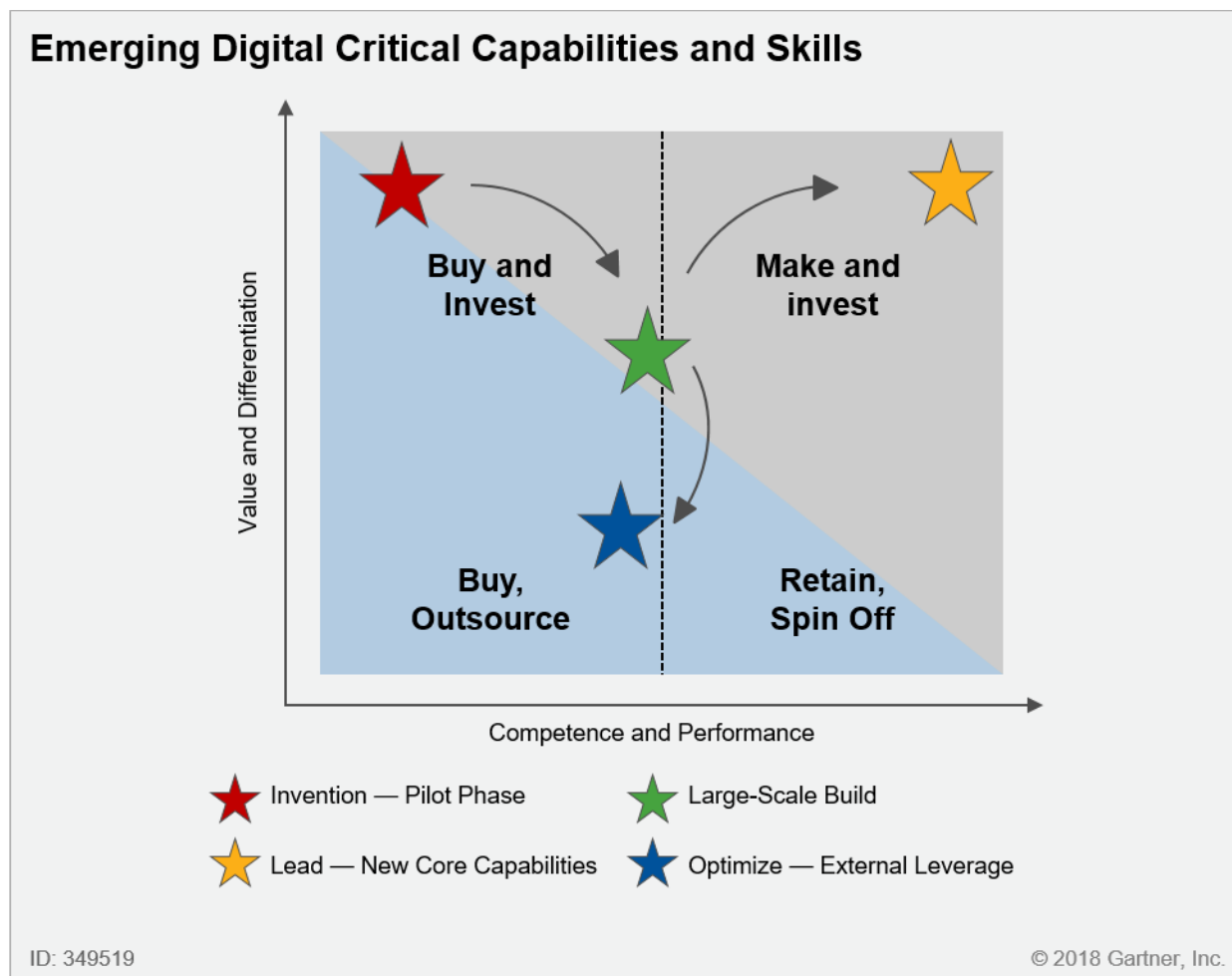
Source: Gartner (July 2018)

Additional influencing factors. Additional practical elements that influence the balance between insource versus outsource decisions for infrastructure services enabling digital platforms comprise:

- **Product development strategy and roadmap.** Many organizations are evolving from a project-centric to a product-centric IT operating model. The balance between custom development versus COTS solutions and magnitude and speed for change also drives the need for services sourcing transformation and often increases the number of providers engaged for innovation and application services. This impacts the infrastructure sourcing models (type and number of infrastructure providers), in some cases even requiring the integration (bundle) between infrastructure and application sourcing decisions (e.g., requirements for SaaS, end-to-end solutions and DevSecOps).[17]

- **Emerging critical skills.** The high business value and differentiation potential of digital business — especially in the early invention and pilot phases — require investment in one's own

competencies (invest) and buying external expertise (buy; see Figure 1). Hiring, selective reinsourcing and "techquisition" activities are considered to be proof of this new style of sourcing applied to emerging competences like IoT, AI, design thinking and monetization models (see "How to Source Critical Domains of Expertise for Successful Digital Business Initiatives").

- **Decisive move from staff augmentation into managed services.** Many organizations are finding themselves exposed to a high number of external contractors, with risks associated to productivity, knowledge management and management overheads. Practical rules for bundling (especially in application services) are reported in "Bundling by Service Line to Separate Service Providers Can Enhance Performance Through Competition." Also see the Whirlpool Case Study at the end of this document.

- **Cloud strategy and hybrid IT infrastructures.** Gartner predicts that the cloud compute IaaS market will achieve a compound annual growth rate (CAGR) of 33.4% for the period 2017 to 2022.[18] By contrast, the traditional data center outsourcing market will have a –3.5% CAGR for the same period. Growing popularity of cloud — coupled to a practical inability to migrate fast out of legacies — is increasing the mix of different architectures and the need to focus infrastructure sourcing decisions on Hybrid IT Infrastructure end-to-end management, cloud migrations and workload optimization.[19]

- **Past sourcing performance.** Ineffective and often-outdated contracts and missing vendor management and service level management capabilities may have resulted in poor performances from previous outsourcing arrangements. For some organizations, past supplier performances influence perceptions on the sourcing models as they develop negative impressions that may impact future sourcing decisions, heading toward unjustified bulk reinsourcing (instead of fixing the true reasons of failure).[20]

- **Bureaucracy and protectionism.** Certain organizational cultures promote protectionist behavior and pose resistance to bimodal service delivery models and claim internal delivery is ideal for the client's context. Such cases are declining with constant pressure on cost optimization and business value creation across the industries. However, these environments are likely to influence insourcing/outsourcing decisions and can be overcome by leveraging external market capabilities for critical business initiatives on cost optimization and business innovation.

- **Business case.** Finally, no matter how compelling market trends and industry best practices are, if certain delivery and sourcing models are not the right fits for your organization and the business case is not favorable for external delivery, then the business will continue to opt for internal delivery for infrastructure services.

Bundling, sourcing models and the MSI. For Mode 1 multiyear relationships, individual service components are often bundled into more complex logical categories of connected services (examples are reported in Table 4). One of the main factors of bundling decisions is the specific deal size and how it refers to market average. The simple rule is that if annual spending on a specific service function (e.g., the service desk) is too small compared to the average deal size (e.g., for managed workplace services in a certain region), then it can be bundled with other services (e.g., email services, LAN services and other managed workplace services). This will provide a more

sizable end-to-end deal that will in turn create more interest in providers and higher likelihood of success.

Bundles are going to be delivered as parts of the overall sourcing model (like shared service versus selective outsourcing). Models have been analyzed in Gartner research for both traditional Mode 1 sourcing models and Mode 2 dynamic sourcing models (see Note 2 for the list of model and relevant research for drill down on each single model). Additional principles for bundling in the application space can be found in "Bundling by Service Line to Separate Service Providers Can Enhance Performance Through Competition."

The final key element to define the right bundles and sourcing models is the client vendor management and multisourcing management ability that will lead to early decisions on how to implement the required MSI (multisourcing integration) management capability.[21]

Table 4. The How: Typical Bundles and Contract Value for Outsourcing Deals (Infrastructure-Level Examples)

Bundle	Description	Average Annual Contract Value and Reference Satisfaction		
		Europe	North America	Asia/Pacific
Enterprise Systems Services[22]	Data center outsourcing and hybrid infrastructure managed services, often bundled with cloud migration and DC transformation	$1.27 million Reference overall satisfaction = 4.13	$1.41 Million Reference overall satisfaction = 4.23	$1.50 Million Reference overall satisfaction = 4.06
Enterprise Communication Services	Managed (data) network services wide-area network infrastructure Network system monitoring Voice services Video services	N/A	N/A	N/A
Managed Workplace Services[23]	Service desk services Desktop management services Email and communication often including LAN and other communication services	$1.57 million ($430 K service desk and $1.14 million for workplace services) Reference overall satisfaction = 4.09	$2.60 million ($1.13 K service desk and $1.47 million for workplace services Reference overall satisfaction = 4.30	N/A
Multisourcing Integration[24]	MSI role, sometimes bundled with the service desk or bundled into the largest delivery area (i.e., enterprise systems services)	N/A	N/A	N/A

Source: Gartner (July 2018)

Sourcing leaders involved in infrastructure services sourcing transformation and execution must:

- Evaluate the options for each sourcing initiative in light of the overall sourcing models in use while understanding that most organizations will end up with transformational requirements toward a hybrid multisourcing approach[25] and with an increasing need of identifying and exploring new sourcing models for bimodal activities.[26]

- Leverage past and current issues to improve vendor management and sourcing/procurement maturity[27] and evaluating and fixing specific issues of each service relationship.[28]

- Determine the most likely sourcing option for the MSI capabilities (internal, outsourced, hybrid)[29] also based on the sourcing maturity and dynamic sourcing readiness, measured through a simple checklist.[30]

- Decide the most appropriate bundles of sourcing components by leveraging the information provided in Table 4 and related research[31] as well as the outcome of each single tender or RFP (where service towers can be bundled or unbundled due to the result of the competitive evaluation).

- Identify additional open alternatives for further qualitative and quantitative analysis, due diligence, proofs of concepts and pilots or parallel negotiation.

- Execute each single initiative as part of an overarching strategic view (e.g., the evolution toward the digital platform infrastructure).

- Dynamically manage the balance of customer satisfaction, end-to-end digital infrastructure management, automation and cost-optimization initiatives with deals and provider success by leveraging the internal marketplace (active options) and the external marketplace (as described in "Toolkit: Sample Workbook to Implement the Digital Sourcing Strategy").

Case Study

Whirlpool Corporation is the world's major home appliance company with $21 billion in annual sales, 92,000 employees, 70 manufacturing and research centers, and operations in virtually every country. Developed more than 100 years ago on a root of innovative family businesses and acquisitions, including the largest in its industry segment, e.g., Indesit in Europe, Whirlpool is constantly looking for new market opportunities by leveraging collaboration and innovation to create demand and trust.

Industrialization/Europe. The impact of the Indesit integration in Europe has been huge, merging 30 legal entities, launching 50 ERP go-lives on a new landscape, impacting most IT architectural components and driving changes in almost all factories and on more than 50% of SKUs (stock keeping units) in an organization dispatching about 2 million products a month. In January 2017, the new EMEA CIO, Andrea Ciccolini, and HR Business Partner Francesco Conti — facing an IT organization composed of 75% external contractors and only 5% internal project managers — set two major short-term priorities: talent development and delivery/sourcing strategy.

Talent development focused on increasing the internal IT capabilities required to manage the merge and end-to-end services. Key investments followed, to reinsourcing/hiring critical skills like business relationship managers, business analysts, PMs, agile coaches, solutions architects, BI and data leaders.

The new delivery and sourcing strategy focused on increasing maturity to Level 3 on Gartner's IT score scale and drastically reducing the dependency on contractors (from 57% of all IT resources to 32% in 24 months). Current sourcing negotiations aim at increasing the use of outsourcing/managed services well above the current level of 26% to further reduce contractor dependency. Business orientation is ensured by the ongoing hiring plans, mostly focused on filling integrated supply chain, finance, digital, go-to-market, consumer services, IoT and infrastructure services skills. Now that the European integration has been successfully delivered, it's time to move to Strategy Driven investments and Digital Platforms investment across the globe.

Gartner Recommended Reading

"4 Major Sourcing Trends for a 'New Normal' World: Change, Outcomes, Risk and Agility"

"The Four Main Myths of Insourcing Debunked: Impact on Cost, Performance, Resilience and Skills"

"Embrace Dynamic Sourcing to Optimize Cost and Business Performance as Shown by Whirlpool and Nokia"

"How Nokia Signed a $500 Million Digital Platform Service Deal in 90 Days With a Dynamic Sourcing Approach"

"Kill Your RFP and Negotiate an Infrastructure Service Deal in 90 Days"

Evidence

[1] Digital infrastructure architecture won't be based on current topologies, but will be global in scale, driven by business requirements. See "The Data Center Is Dead, and Digital Infrastructures Emerge."

[2] Digital infrastructure architecture won't be based on current topologies but will be global in scale, driven by business requirements. See "Sourcing Decision Framework: The Business-Aligned Approach to Outsourcing."

[3] See "Sourcing Decision Framework: The Business-Aligned Approach to Outsourcing" and "Establish IT Sourcing Principles for Successful Outsourcing."

[4] See "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Utility Services, Asia Pacific," "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Managed Services, Europe" and "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Managed Services, North America."

[5] See "Critical Capabilities for Managed Workplace Services, Europe" and "Critical Capabilities for Managed Workplace Services, North America."

[6] See "Magic Quadrant for Managed Workplace Services, Europe" and "Magic Quadrant for Managed Workplace Services, North America."

[7] See "Key Considerations When Insourcing After Outsourcing or When Fulfilling New IT Demands."

[8] See Figure 35. "Distribution of IT FTEs: Insourced versus Contractor, by Industry, 2017" in "IT Key Metrics Data 2018: Executive Summary."

[9] See Figure 4. Project Spending by Pace Layer by Industry in "IT Key Metrics Data 2018: Key Applications Measures: Project Measures: Current Year."

[10] See Figure 21. Percent of Projects Using Waterfall, and Other Methodologies Industry in "IT Key Metrics Data 2018: Key Applications Measures: Project Measures: Current Year."

[11] See "Understanding Rural Sourcing as an Alternative to Offshore Outsourcing."

[12] See "Evaluate Offshore/Nearshore Countries for Outsourcing, Shared Services and Captives Worldwide, 2017."

[13] See "Toolkit: Negotiate More Effectively Using Key Labor Rates for IT Application Outsourcing Deals."

[14] See research note "What You Should Never Outsource: Three Key Rules."

[15] See "Building and Maturing a Vendor Management Capability Primer for 2018."

[16] See "Toolkit: Orchestrate Detailed Multisourcing Service Integration Roles and Responsibilities to Meet Business Objectives."

[17] See "Apply a Dynamic Sourcing Strategy for IT Services to Support Digital Initiatives."

[18] See "Forecast Analysis: IT Services, Worldwide, 1Q18 Update."

[19] See "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Utility Services, Asia Pacific," "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Managed Services, Europe" and "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Managed Services, North America."

[20] Evaluate sourcing relationships on five critical areas leveraging "Toolkit: Outsourcing Relationship Assessment and Improvement Plan Template."

[21] See "Four Essential Categories to Assess When Outsourcing the Multisourcing Service Integrator Role" and "Key Performance Indicators Required for MSI-SIAM Role to Manage Multisourced IT Services Ecosystem."

[22] See "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Utility Services, Asia Pacific," "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Managed Services, Europe" and "Magic Quadrant for Data Center Outsourcing and Hybrid Infrastructure Managed Services, North America."

[23] See "Magic Quadrant for Managed Workplace Services, Europe" and "Magic Quadrant for Managed Workplace Services, North America."

[24] See "Market Guide for Multisourcing Service Integration."

[25] See "Hype Cycle for Hybrid Infrastructure Services, 2017" and "IT Market Clock for Hybrid Infrastructure Services, 2017."

[26] See new sourcing options in "New Bimodal Sourcing Strategy Options Enable Successful Digital Businesses."

[27] Sourcing and vendor managers can assess their outsourcing relationships with strategic service providers by using "Toolkit: Outsourcing Relationship Assessment and Improvement Plan Template." Sourcing and vendor management leaders can assess the maturity of their vendor management capability with "ITScore for IT Vendor Management."

[28] Evaluate sourcing relationships on five critical areas leveraging "Toolkit: Outsourcing Relationship Assessment and Improvement Plan Template."

[29] See "Research Roundup for the MSI-SIAM Role."

[30] See "Checklist and Guide to the Impact of Bimodal on Sourcing, Procurement and Vendor Management."

[31] See "How to Bundle Your Services in an Infrastructure and Application Outsourcing RFP."

Note 1 Infrastructure Services and Technology Supporting the Digital Business Platform

- Information systems platform — Supports the back office and operations, such as ERP and core systems.

- Customer experience platform — Contains the main customer-facing elements, such as customer and citizen portals, multichannel commerce and customer apps.

- Data and analytics platform — Contains information management and analytical capabilities. Data management programs and analytical applications fuel data-driven decision making, and algorithms automate discovery and action.

- IoT platform — Connects physical assets for monitoring, optimization, control and monetization. Capabilities include connectivity, analytics and integration to core and OT systems.

- Ecosystems platform — Supports the creation of, and connection to, external ecosystems, marketplaces and communities. API management, control and security are its main elements.

For more details, see "Building a Digital Business Technology Platform."

Note 2 Bimodal Sourcing Strategy Steps

Gartner recently identified the major steps required to manage strategic sourcing decisions:

1. Analyze need

2. Analyze financials

3. Assess vendor market

4. Analyze options

5. Communicate sourcing strategy

6. Execute sourcing strategy

7. Evaluate results and reassess

See "Formalize Technology Sourcing, Procurement and Vendor Management Disciplines to Ensure Business Value."

Note 3 Traditional (Mode 1) and Emerging (Mode 2) Sourcing Models

Traditional sourcing Models has been identified in Gartner sourcing research (2000-2012) as the foundational elements of sourcing strategies and are: Internal Delivery; Shared Services/Captive Centers; Joint Ventures; Build Operate and Transfer; Brand Service Company; Full Outsourcing; Best-of-Breed Consortium; Selective Outsourcing; Prime Contractor/Multisourcing Integration.

For practical principles on when to use or not to use see, "How to Put Sourcing Models into Action to Address Business and Market Dynamics."

New sourcing models has been identified as part of Gartner research on Adaptive/Bimodal sourcing (2010-2018) as new required models to implement agile and dynamic sourcing strategies and are: In-House resources; Reinsourcing (selective); Use of current providers; Engagement of new providers/Subcontractors; Use of small providers for IP; Crowdsourcing and Hackathons; Digital Business Consulting services; PCI/PCP and looking forward innovation procurement; Startup Aggregators/Technology Incubators; Collaborative consumption/influence platforms; Techquisitions.

For practical principles on when to use or not to use, see "New Bimodal Sourcing Strategy Options Enable Successful Digital Businesses."

Note 4 Using Staff-Augmentation-, Project- or Managed-Services-Based Resourcing

For more information, albeit with applications services, see the following historical research: "Choosing the Right External IT Delivery Model to Meet Business Needs: Staff Augmentation, Project-Based Services or Outsourcing."

More on This Topic

This is part of an in-depth collection of research. See the collection:

- Use Our Checklist to Evaluate and Enhance Your Readiness for the Dynamic Sourcing of Digital Business

Insourcing vs. Outsourcing: From Struggle to Strategy

Published: 18 July 2006   **ID:** G00141965

Analyst(s): Cassio Dreyfuss, Lorrie Scardino

In today's business environment, insourcing and outsourcing decisions are more frequent, more strategic and more complex. Understand the elements for agile and effective decision making and strategy refresh.

Table of Contents

Strategic Planning Assumption(s)

Through 2010, organizations that apply outsourcing as an ad hoc solution to tactical business problems will be dissatisfied with the performance of their contracts more than 70 percent of the time (0.8 probability).

Analysis

1.0 Introduction

Today's business environment is dynamic and fast-paced, one in which change is normal and a stable state is not. At the same time that business strategies and priorities change, the scenario in the service market is turbulent, with new entrants and offerings, and frequent mergers and

acquisitions. Which services should be insourced and which should be outsourced are decisions that dramatically change from organization to organization and from time to time.

Problems exist in all service engagements, but insourcing decisions generally do not result from dissatisfaction with the external service provider, just as most outsourcing decisions typically do not result from lack of capability or credibility from internal IT organizations (see "Insourcing After Outsourcing Reveals Same Drivers, but New Circumstances"). Successful organizations will outsource or insource services based on solid decisions, made for business reasons. They will practice disciplined multisourcing, which is the provisioning and blending of business and IT services from the optimal set of internal and external providers in the pursuit of business goals.

2.0 Decisions Are More Business-Focused and Granular

In the past, insourcing vs. outsourcing decisions were less sophisticated and generally made for one class of services, or to fill an immediate resource gap. Services were not generally aligned with business goals. Organizations decided they would insource or outsource all their application development, all their infrastructure services or all their back-office processes. Or, they would outsource a function to fill a gap and try to approach the external provider as extensions of their own organizations, like staff augmentation. Today, decisions are made at a more-granular level. The business and the IT organization will define more precisely what should be sourced internally or externally, and why.

As a result, specific "chunks" of service will be insourced when other parts are outsourced. Or specific chunks will be insourced back from a previous "wholesale" outsourcing decision. For instance, a company decides to continue to outsource its accounting processes, but insource, from its current outsourced relationship, the financial management applications and processes. The company realizes that it was losing its ability to design new financial controls and standards because it lost its intellectual property with the outsourcing. It is not that the decision made some time ago was wrong, but circumstances changed. There is more external oversight and more stringent regulations to comply with, and more process knowledge is required. In this example, change at the regulatory level forces changes inside the company. The level of change required serves as a driver to re-examine the sourcing strategy.

Given the same conditions, another organization may have made a different decision. For instance, in a traditional manufacturing company, financial management is important but is not strategic and, although financial decision and management will forever remain an internal responsibility, those applications can be easily outsourced or obtained in a business process outsourcing arrangement.

The reality is that there is no "one size fits all" for insourcing vs. outsourcing decisions. Be sure you follow a formal and documented process to arrive at decisions. You will use that as a baseline for all subsequent decisions and for formal revisions of your sourcing strategy, triggered by changes in current business and service conditions (see "How to Build a Sourcing Strategy" and "Advance Your Sourcing Strategy with Gartner's Self-Assessment Tool").

3.0 Decisions Are Affected by the Maturity of the Organization

IT organizations follow an evolutionary path, from delivering a chaotic response, through several stages of increasing maturity, to ultimately delivering value. Likewise, the business' perception for IT will evolve from uncertainty, through several stages of increasing appreciation, to respect (see "How to Climb the IS Credibility Curve"). By the same token, insourcing and outsourcing decisions will become increasingly sophisticated as the organization matures.

Before a certain level is reached — one where IT proactively offers solutions to business problems or opportunities — insourcing vs. outsourcing decisions are made mostly based on the reaction to an immediate need, such as resources in specific numbers or with specific skill sets, or a reaction to a sustained level of failure or dissatisfaction, such as frequent business interruption or spiraling costs.

In mature organizations, business, IT and sourcing strategies are tightly aligned. The IT organization proactively offers solutions to its users, leading to the development of a portfolio of services, comprised of internally and externally provided services. The IT organization begins to view external sourcing as an opportunity and starts analyzing resource and sourcing options based not simply on availability, but on what the business value is in each of the options. Sourcing decisions become strategic and business metrics are used to evaluate their overall business effectiveness. That change of perspective is pivotal in the development of mature sourcing practices. Not many organizations have reached those mature stages, but that is an objective all should strive for to reach for demonstrable, positive business impact.

If your organization has not yet achieved a mature stage, then sourcing decisions are tactical and external resources are often engaged to remedy a resource or skill gap. Internal sources will generally be the preferred choice when the IT organization is making the decision, and external sources are often given higher consideration when other groups are making the decision for IT. In either case, the IT organization can actively use all instances of sourcing decisions to increase the organization's maturity about sourcing by involving different, relevant perspectives in the decisions and evaluating the appropriate factors. The more IT drives informed decisions according to an established framework, the more credibility IT will have for appropriate decisions.

As your organization climbs the maturity curve, be sure to create a decision framework and a repeatable process that become embedded in sourcing governance. This will ensure that every decision is approached with a recognition of the appropriate influencing factors and perspectives, leading to decisions that support the sourcing strategy and business goals.

4.0 Decisions Depend on Different Perspectives

The key to strategic, business-aligned sourcing decisions is to involve the different stakeholders, with their different perspectives, to participate in the process. We perceive three important stakeholders with different perspectives with regard to insourcing vs. outsourcing decisions: business end users, the IT organization, and internal or external service providers. Each perspective, if isolated from the other two, will drive different, conflicting choices (see "Combine Three Building Blocks to Build a Sourcing Governance Framework"). For example, business will

choose a source mostly because it complements the business, without due consideration to security or compatibility with the architecture, and without considering the people or organizational implications of that choice, whereas IT organizations might put undue emphasis on technological considerations without consciously evaluating cultural compatibility and fit with the business.

Business users clearly have a demand perspective about services, with specific expectations regarding outcomes. Service providers clearly have a supply perspective, with specific delivery objectives. The IT organization has to deal with both demand and supply perspectives (see "Sourcing Management: Aligning Demand and Supply"). This conflict is healthy for the business when it is not suppressed — which is commonly the case — but resolved under appropriate governance processes and rules. The sum of the conflicting perspectives will drive the application and adaptation of sourcing decisions to changing business needs, from a demand perspective, and to a changing resource scenario, from a supply perspective.

A well-designed sourcing governance framework will establish mechanisms that drive decisions with a combination of perspectives that are, in each case, the most appropriate combination to further the business strategy. Be sure you develop the appropriate governance framework, involving the different stakeholders, to support your decisions.

5.0 Decisions Involve Many Factors

Industries are different, business strategies are different, enterprises are different, service markets are different — and they change all the time, making it a challenge to plan, acquire and manage the dynamic combination of services from internal and external sources. However, organizations can improve the success rates of their decisions if they address the appropriate factors and evaluate them against in and out alternatives through sound decision processes.

In the past, organizations considered factors in three categories when making sourcing decisions:

- Business

- Economic

- Technical

These categories enable an objective evaluation of alternatives from the perspective of the end user (demand perspective). However, many other factors affect the execution of services (supply perspective) and, therefore, their contribution to the expected results. The additional categories are:

- Sourcing

- Organization

- People

These three categories are often poorly evaluated. To make optimal sourcing decisions, organizations must examine many factors in each of the six categories and balance the importance of various factors in light of today's reality and future objectives.

- **Business Factors:** Assess how different alternatives will deliver the most value to the business and how services will further business objectives and strategy. Assess the business value delivered by the service, expressed in ways such as innovation, competitive potential and intellectual property. All those positive characteristics must be evaluated against business risks.

- **Economic Factors:** It is not enough to only compare costs. Also evaluate other attributes, such as the cost structure (critical, for instance, in country comparisons when considering onshore, nearshore or offshore locations), investments and cash flow, drawing a complete economic picture that should be compared to the estimated return (see "How to Build the Sourcing Business Case").

- **Technical Factors:** Analyze how well the proposed services fit your business architecture and technology standards, or how the provider's architecture fits your business requirements. Another issue is how the proposed services and processes can be integrated with established operations. Technical factors deal also with the critical decision of preserving the current architecture or transitioning to the service provider's standard environment. Technical factors also consider other critical aspects, such as security.

- **Sourcing Factors:** Evaluate the availability on the "supply side." The different sourcing models — from internal delivery to selective outsourcing — from different sourcing locations — insourcing, onshore, nearshore or offshore — can be dramatically different. For those models and locations, evaluate sourcing management issues, such as structure, roles, relationships, responsibilities and governance framework.

- **Organizational Factors:** Evaluate "organizational fit," comparing internal and external sources. The enterprise personality profile (a composite of culture, leadership style, risk profile and maturity) will greatly influence insourcing or outsourcing choices, as well as the respective sourcing governance models. A good organizational fit is an obvious advantage for the internal source, and may be the deciding factor in the absence of a strong advantage for the external source. Conversely, a good organizational fit with an external provider can be a deciding factor when it already brings advantages over the internal source in other factors.

- **People Factors:** Assess workforce management issues (hiring, training, dismissing and so on) vs. dynamic access to resources in outsourcing. Also assess how people will be affected at the workforce, team and individual levels, considering working relationships, collaboration, the impact of change the service will bring and the necessary change management program that will take place with each choice. Services are a people business that requires integration among the different sources to achieve expected performance levels.

Other categories of decision factors are possible, dealing with specific issues such as compliance, time to market, innovation and global sourcing. However, the six categories detailed here are applicable to all decisions, and organizations must consider all six decision factor categories whenever making sourcing decisions.

6.0 Decisions Are Influenced by Drivers and Catalysts

Drivers and catalysts affect the evaluation of decision factors. They compose the backdrop scenario for that evaluation. You must identify the occurrence of new drivers and catalysts and their possible

influence in your sourcing strategy. A positive identification will trigger the need for a refresh in your strategy.

- **Drivers:** These forces stir internal or external resources toward business objectives and are directly associated to business strategy. They compel an organization to examine the adequacy of a source in the current environment. Frequent drivers of insourcing vs. outsourcing decisions are:

  - Economics: Changes in the economic scenario and financial conditions

  - Control: The initiative to retain or shed ownership of process, technology, intellectual property and so on

  - Business conditions: Industry threats or opportunities

  - Competitiveness: The inherent characteristics of an organization's products or services

  - Intellectual capital: The initiative to obtain, protect, manage or relinquish knowledge assets

  - Client ownership: The initiative to be close to or move away from a direct relationship with end users or external customers

- **Catalysts:** By definition, catalysts change the speed of chemical reactions, increasing or decreasing them. Catalysts are circumstances or events that will accelerate or inhibit insourcing or outsourcing decisions. For example, entrepreneurial organizations outsource more and switch service providers more often; while conservative organizations insource more and switch less. Every organization is under the influence of fixed and variable catalysts that affect its propensity toward insourcing or outsourcing. Common catalysts that affect the speed or direction of sourcing decisions are:

  - Merger and acquisition activity

  - Leadership bias and changes in leadership

  - Business process maturity

  - IT maturity

  - Resource or skill availability

  - Security concerns

  - Transition and continuity factors

An assessment of catalysts that are at play whenever a driver triggers the examination or revalidation of a decision in the sourcing strategy, or when a new sourcing decision needs to be made, will help the organization scope and describe the options for consideration. For example, a business opportunity may be identified but the IT organization is not able to implement and operate the required technology fast enough to seize the opportunity. The IT organization may want to drive a fast-track outsourcing selection process, but security concerns will slow it down. In this case, the driver (business opportunity) indicates a sourcing decision, but the catalyst (security concerns) requires that a wider lens be used for considering the options. Conversely, an active business

leadership can be a positive catalyst, deciding to accept additional risks to take advantage to the business opportunity. You must recognize the presence of catalysts and deal with them appropriately.

7.0 Decisions Are Subject to Change

Sourcing decisions will happen in four ways.

- **Development of Sourcing Strategy:** One of the questions that must be addressed in that process is "Who?" (See "Stop Outsourcing and Begin Disciplined Multisourcing.") Who can best deliver it, an internal or external source? What is our internal level of competency? Is the market capable of delivering this service reliably? At that point, a decision will apply to a defined scope of work, such as complete processes or a group of applications — for example, the company decides that corporate-level applications will be built internally.

- **Evaluation of a Specific Demand:** Under the general guidance established by the sourcing strategy, the organization is evaluating a specific demand, which may be influenced by one or more of the drivers and catalysts noted above. The decision process for sourcing a new demand must be made in a structured way that considers the six categories of decision factors, as well as any applicable drivers and catalysts. The decision process must be described in sourcing governance practices and the resources involved in the decision process must demonstrate compliance with these practices when seeking approval to proceed once a decision has been reached (for example, the strategy indicates that a financial dashboard should be built internally, but the organization decides to outsource this service to reach out to high business process management expertise levels).

- **Annual Refresh of Sourcing Strategy:** The third way is as a normal course of business. We recommend that the sourcing governance process require a re-examination of the sourcing strategy on an annual basis to determine if significant changes have occurred and if the strategy is still valid in the current environment. This examination should also look at drivers and catalysts to determine if any new forces are at play that will affect the overall sourcing strategy. As an example, a service provider now offers financial applications as a service, charging services by transaction volume, enabling a shift to variable costs in the expenditures for those applications.

- **Event-Triggered Re-evaluation of Sourcing Strategy:** The fourth way is when a new driver or the influence of strong catalysts causes a re-examination of the sourcing strategy, outside of the (annual) time frame indicated by sourcing governance. In this situation, the force of the driver is such that the organization has to react quickly and open the strategy up to new options, even if those options were not weighted heavily in the original, foundation sourcing strategy — for instance, when a recent merger requires that all corporate applications from both companies be insourced until they are seamlessly integrated.

In each of these situations, it is imperative that the organization understands the elements of effective decision making and builds appropriate sourcing governance processes to ensure that the sourcing strategy remains supportive of business requirements, continuously and consistently. A sourcing strategy is not something that is done as a one-time activity and then executed. It must be

viewed as part of the fabric of the business and the cornerstone for defining and deciding how business is done.

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Key Considerations When Insourcing After Outsourcing or When Fulfilling New IT Demands

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Insourcing considerations are two-pronged — bringing back outsourcing IT delivery in-house and deciding what IT work will be delivered internally versus externally. Sourcing and vendor management leaders must weigh the pros and cons to ensure they make the right choices.

Key Findings

- Decisions made to insource are often based on delivery dissatisfaction with external providers. However, bringing the IT delivery back in-house does not always solve delivery issues; in fact, it may exacerbate them.

- Large enterprises that have made the decision to insource after outsourcing have often received significant media attention. However, in reality, insourcing after outsourcing does not happen in many cases. Clients are more apt to change external providers, or modify the deal with their current provider, than bring it back in-house.

- New IT work is being carefully scrutinized to determine whether it is appropriate for delivery internally or whether external delivery is the best option. Digital business requirements and interactivity with the business are causing many clients to contemplate internal delivery in some areas, such as application development and analytics.

Recommendations

Sourcing and vendor management leaders aiming to improve their services' sourcing execution should:

- Evaluate the current state of service delivery, set goals for the new state and evaluate how effectively these services can be delivered through insourcing in comparison with outsourcing.

- Assess, jointly with HR, the skills and competencies required to support IT delivery work that is net new or insourced from what was outsourced. Differentiate between the need to hire and/or

train individuals and teams in advance of starting any transitions. Always examine the enterprise brand value to determine the ease of attracting and retaining talent.

- Determine how work will be transferred, taking into account the boundaries of the current outsourcing contract, for those domains where insourcing is identified to be most suitable, but where it is currently outsourced instead. Focus on ownership and risk of transfer of IP, systems, assets, tools, processes and procedures related to the current delivery.

- Minimize risk of insourcing by ensuring a backfill agreement for critical domains with the current outsourcing provider or a domain specialist. Insourcing failure is always an option.

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Analysis

This document was revised on 28 September 2018. For more information, see the Corrections *page on gartner.com.*

Sourcing strategies should be continually evaluated to ensure that optimal delivery is occurring for all IT and business delivery. This requires an examination of current delivery models to determine if they are serving the needs of the business (based on current delivery requirements) or if a change is needed. A change would be either to move delivery to a new external provider or bring it back in-house for delivery with your own resources.

Sourcing strategies should consider new delivery requirements facing IT. Examinations of the new requirements and factors, such as time frame to deliver, culture, maturity of the business and extent of business collaboration, as well as the skills/talent needed to deliver, will guide the enterprise decision to insource or outsource.

This research document focuses on two areas, under examination by clients, for insourcing. The first insourcing consideration is bringing IT delivery back internally after outsourcing. The second is what enterprises are currently considering for internal delivery when tasked with new business requirements.

For Dimension 1 and Dimension 2 insourcing, see Figure 1.

Figure 1. Insourcing Has Two Dimensions
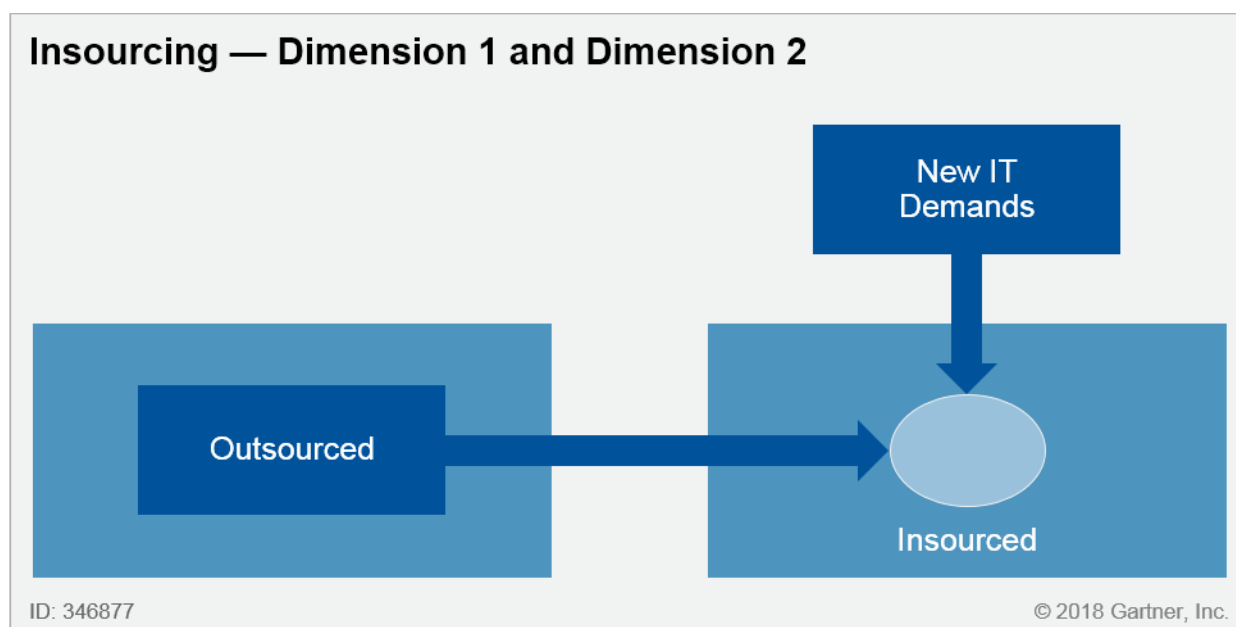
Source: Gartner (March 2018)

Dimension 1: Insourcing After Outsourcing — Reaching the Decision

The IT services market is buzzing with change as new outsourcing alternatives emerge each year, driven by technology advancement and new providers entering the market. Just as rapidly, organizations' IT services change in response to external and internal forces, making it necessary to update IT sourcing strategies and reassess service delivery methods over time. When contracts come up for renewal or clients consider a change in service delivery for business or frustration reasons, sourcing managers must work with their IT and business stakeholders. They need to decide how to continue providing services most effectively (or decide not to provide them). At that juncture, the choice to bring a service back in-house or to transition from one vendor to another is the most common consideration.

Sourcing managers (with their IT and business stakeholders) must evaluate both scenarios in light of the factors. These factors include service delivery approaches, the credibility and maturity of the IT department, the quality and cost of service delivery, and in the case of re-insourcing, the ability to meet goals of changing business strategies with internal resources. They must analyze business demand versus supply and realistically assess how well each scenario would meet business

demand. Because sourcing options and business requirements change over time, decisions must be made based on an up-to-date sourcing strategy.

Whether or not a change is made to insource or change providers, clients must understand and be ready for the impact of the decision. With insourcing, the decision is largely based on readiness and the ability to reabsorb the work. When switching vendors, it is whether or not new delivery will be better than the current provider and how much risk you are willing to accept to make that change. Either way, thoroughly examining the pros and cons of each potential decision can help you avoid business disruption when delivery agents change. In addition, careful risk and change management can minimize disruptions to your services ecosystem.

When bringing services back in-house, sourcing managers must examine the rationale for the change, value propositions and any risks associated with change. Common factors that drive the decision to insource after outsourcing are shown in Figure 2.

Figure 2. Common Reasons Why Clients Choose Insourcing After Outsourcing

Common Reasons Why Clients Choose Insourcing After Outsourcing

Cost	Coverage
▪ Reduce cost, changed economic conditions ▪ Baseline volumes	▪ Tie delivery to current business needs ▪ Expansion or reduction of current scope ▪ Provider's strategy has changed

Control	Capability
▪ Intellectual property ▪ Security ▪ Resources	▪ Delivery capability insufficient ▪ Deal flexibility insufficient

Change	Contract
▪ Business direction ▪ Delivery requirements ▪ New players; i.e., CIO, CEO ▪ New technology offerings	▪ Near end of term

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Source: Gartner (March 2018)

- **Cost:** Clients want reduced cost for IT service delivery, especially if they have signed a fixed-price multiyear contract, and they feel that their rates exceed market-bearing rates. They may also find "margin stacking, or margin-on-margin" situations where their primary vendor contracts out some or all service delivery to a subcontractor.

- **Control:** Clients want to steer services in a different direction or increase agility to support ever-changing business needs. Clients may choose insourcing for greater control over security, intellectual property (IP) and regulatory demands, and to lower risk exposure or when their enterprise culture works better when they have complete control.

- **Change:** Changes in business direction drive the need for transition; for example, mergers and acquisitions, new senior leadership setting a different direction for the enterprise, or business strategy being revised. In addition, volume baselines may change significantly, such as a divestiture of the business making the delivery a smaller scope.

- **Coverage:** Over time, a contract has fallen out of alignment with the current needs of the business. The provider's strategy may also not be in alignment with delivery needs; for example, if a vendor is running down a book of business.

- **Capability:** The service provider is delivering unsatisfactory service. Or, the client had expectations that items were included (or excluded) in the coverage of the existing contract, but they were not.

- **Contract:** A contract is coming to the end of term, which necessitates a decision to retain the current provider, change providers or take the work back in-house for delivery.

But Are You Ready? And Will Delivery Be Better If You Insource?

Bringing services back in-house after outsourcing could necessitate a significant investment in resources, time and money to recruit and establish new roles, responsibilities, skill sets, competencies, personnel, tools and methodologies. As with any large-scale transition, sourcing managers (working with their stakeholders) must clearly articulate the key business reasons for the decision.

Moreover, for implementation and long-term sustainability, the most critical element of success is to align business drivers to the transition approach and action plan. It is important to contemplate all the costs and challenges involved when switching the party responsible for delivering services, even when the new party is your organization.

Answering the questions below, grouped into five major areas, will help organizations gain a better perspective on whether insourcing after outsourcing is a viable option. Please see "Toolkit: Outsourcing Relationship Assessment and Improvement Plan Template" for a more detailed analysis of the outsourcing relationship and to identify detailed improvement activities.

Strategy

- Why did we outsource in the first place? To improve service? Focus on core competencies or strategic tasks? Speed, agility, flexibility and innovation? Cost takeout or increased cost predictability?

- How good was the organization at performing this delivery before it was outsourced? What is the capability to do so now?

- Is the outsourcing deal aligned to current business objectives? What objectives are not being met, and could internal services meet those?

Cost

- Do we have the capital and time to invest in keeping the environment and employees up to date regarding continuous improvement, automation, innovation and technology advancements?

- Do we have the economies of scale to perform the delivery at a cost-effective price?

- How will asset transfer occur? What costs are involved? Who owns the assets and what guidelines were established in the contract to determine asset value (and cost to acquire)? Does the vendor's depreciation approach match ours?

Service Quality

- Do we have strong standards, methodologies, processes, procedures, metrics and sourcing management competencies to reabsorb the work?

- How long will it take to "ready" the environment? What is the organizational impact of this transition?

- Are the required service levels being met? How is service delivery satisfaction? Are end users satisfied? Are "the service dashboards showing green but the end users seeing red"? In the new scenario, will service delivery be the same? Better? Worse?

Investments/Capital

- Is the environment ready? You may need to make investments in hardware, software, tools and platforms to support the insourced work. Do you have the funds and time to build and ready the environment?

- Who owns IP, systems, assets, tools, processes and procedures for the current delivery? Is it our organization, or is it proprietary to the incumbent vendor and will leave with them?

HR/Training

- How is hiring in this area for the skills needed? Can HR recruit enough of these skills to sustain delivery? How will it retain staff?

- Does the current vendor utilize global resources? If so, what plans do we have regarding where work is performed? Do we have global locations and access to global talent? Do we need global talent?

- What is the job market in your area? Are you able to hire, in the time you need them, the right resources to support the insourcing decision?

Dimension 2 — Insourcing Net New Business Requirements

Digital business is causing new demands on IT, more than ever before and at a faster pace for delivery. The business expects IT to be fast, agile, innovative and efficient. These demands are causing sourcing and vendor management leaders, along with their IT and business stakeholders, to determine, at an accelerated rate, how IT will deliver against the new business and industry requirements. And, some net new IT work is being insourced more than in the past, but in specific areas.

Common factors used to determine insourcing of net new IT requirements:

- **Design (requirements analysis) and configuration:** Specific tasks requiring significant interactions with the business, necessitating on-site and often internal resources with an understanding of complex business issues, interfaces with existing or planned applications/ platforms, business goals and objectives.

- **Project- or methodology-specific demands:** "Increasingly, projects are run in agile or DevOps models. Both agile and DevOps imply highly collaborative teams to autonomously deliver results. Both models imply strong dedication and collaboration between business and delivery representatives to release new functionality increasingly faster. Organizations therefore need to invest anyway in agile capabilities and might consider that in their respective domain it is better to completely control the agile delivery instead of being dependent on outside capabilities."

  Agile is as much a philosophy as a methodology. Its core tenets include increasing collaboration, empowering development teams and keeping the development process transparent. Therefore, the critical success factor for agile involves people. Practitioners must think and act differently in their approach to work. The agile approach leans heavily on the closeness, creativity and collaboration of its practitioners, and they must exhibit a range of skills and personal traits that aren't as critical in traditional IT and development approaches. These traits include new technical, business and professional effectiveness skills, as well as new mindsets.[1]

  In agile methodologies such as scrum, teams are collaborative, self-sufficient and accountable, requiring no outside support to get the job done.[2]

  They don't wait for work to be assigned to them by managers in a traditional, authority-based "assembly line" approach. Within agile, "the most efficient and effective method of conveying information to and within a development team is face-to-face conversation."[3]

Teams must have a high level of communication and aligned goals to get the job done. The intensive communication requirements with agile have caused some enterprises to consider doing this development work with insourced resources versus external.

- **Culture:** Different business cultures necessitate different approaches to sourcing; for instance, when the enterprise wants complete control over resources and the ability to change work priorities as desired. In some enterprises, there may be different cultures in different business units based on leadership and maturity of the individuals articulating needs and desires for new IT support.

- **Integration with the business to drive innovation:** Net new IT work driven by digital business generally requires close proximity — in many cases between IT resources and business units — as much of this work is iterative in nature. It also requires increased agility. Proximity, and a mutual understanding of the direction of the business, goals and objectives between internal resources, can enhance communication, innovation and outcome. Innovation is a must in driving new ideas — automation, artificial intelligence (AI) and robotics-based solutions — that support business requirements and integrate IT with the business.

- **Concern with loss of intellectual property:** Digital business initiatives may include new product design, new channels for sales and changing portfolios. Clients may wish to hold that insight internally, with insourced resources to retain trade secrets. They could be leery of the ability to protect IP when using service providers.

Insourcing After Outsourcing: Big Press Coverage, but Limited Insourcing Really Occurring

Insourcing has received media attention in recent years, but the attention has been given to large enterprises that have articulated a significant change in IT resource strategy. However, this attention has not directly led to a noticeable increase in insourcing deployments. Here are examples of companies that have insourced some of their IT delivery, and their rationale for making the change:

- **General Electric (GE) IT outsourcing dropping from 74% to 50%**

  GE — In 2016, GE's CIO stated that the company would drastically reduce its outsourcing of talent from 74% to 50% (in terms of number of employees) by the end of 2017. GE had previously been a big outsourcer and offshorer of IT, but CIO Jim Fowler is increasingly bringing a lot of its IT work back in-house — including adding a new captive center in Bengaluru, India.[4]

- **Captives cut outsourcing to Indian IT to solve digital challenges in-house**

  India is witnessing captives cut outsourcing with Indian outsourcing vendors and moving work in-house (captive centers) as the country adopts emerging areas, such as artificial intelligence, cloud and digital technologies. GE CIO Fowler stated that 70% of the services were outsourced before he took over the responsibility as chief information officer, and he desired to reduce that to 50%. "We made a decision for 50:50, and there is still a role for contractors to play, and business partners to play. But I have to bring intellectual property in-house. We have moved from being project managers to product managers, where each of our products is treated like a commercial product," he told Business Standard in an interview in December 2017.[5]

- **DBS boosts "insourced" tech staff by more than 1,300% in 12 months**

DBS increased the amount of "insourced" technology staff by 1,362% in 12 months. "Insourcing enables us to create intellectual property, better manage our technology deployment, and improve cost efficiency," says a spokesperson for DBS. Staff costs went up by 1% overall, while costs per head — total employee expenses (such as salaries and bonuses) divided by total head count — shrunk by 0.4%.[6]

- **JC Penney to reduce outsourcing to India**

  As part of an "insourcing" drive, U.S. retail chain JC Penney plans to hire at least 1,000 people across software and business functions in two years for its Bengaluru technology center. JC Penney chief information officer Therace Risch stated that the company would also continue to hire in the U.S. The shift toward insourcing is reflective of a broader change in the attitude of large enterprise buyers of technology that have over the years viewed India as a low-cost outsourcing destination.[7]

- **Telstra moving toward insourcing**

  Australian telecom major Telstra, which has been outsourcing technology work to Infosys for nearly 10 years, spoke of its plans of setting up a captive unit in India. The firm's large service provider Infosys will help it set up a unit with 200 people initially. The company is expected to work on emerging technology areas at lower costs at the India captive.[8]

- **General Motors brings back 10,000 IT jobs to the U.S.**

  Auto giant General Motors announced in 2012 that it intended to bring back 10,000 IT jobs to the U.S. in the next three to five years. This is flipping its percentage of outsourced work from 90% to 10% and vastly simplifying its IT structure.[9]

Outside of these large firms and their notable coverage, few firms are bringing work back to internal delivery after outsourcing.

Conclusion

- **Outsourcing after insourcing:** While insourcing is heavily discussed among clients, especially when they are frustrated with service provider performance, it is not a trend that has any major traction. When clients outsource, they are apt to stay outsourced. If delivery problems occur, or the deal size and scope change, they are more apt to transition to a new outsourcing vendor (or take some critical functions back in-house) than take the entire workload back for internal delivery. Many enterprises that have examined bringing work back in-house find that it is a costly proposition, especially when assets have been transitioned to a supplier or they are receiving industrialized, one-to-many services. They are heavily reliant on the provider's infrastructure, platform, tools, methodologies and labor to deliver. Enterprises are also aware that they may have difficulty hiring enough staff, with the right skills to reabsorb the work, especially if it requires on-site delivery.

- **Insourcing net new IT work:** Digital business transformation is a type of digital journey that has the ambition of pursuing net new revenue streams, product/services and business models.

It is favored by enterprises that must adapt to an industry in disruption, or ones that want to disrupt their industries.[10]

Digital business is creating much more demand on IT for expedient, agile delivery and outcomes that will drive business success. IT support of digital business, in many cases, requires a higher degree of interaction between the business and IT, causing enterprises to consider which is best to deliver against the needs. Insourcing for net new IT work in this area is occurring for some enterprises that feel that internal resources are the most optimal to work directly with the business to design, create, test and implement. Gartner, however, forecasts that the IT outsourcing market will increase $113 billion over the next five years.[11] This indicates that insourcing for net new work is not expected to be a significant trend.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"CIOs Must Evolve IT Roles and Talent Profiles to Adopt and Scale Bimodal"

"New Bimodal Sourcing Strategy Options Enable Successful Digital Business"

"Managing Distributed Agile With Outsourced Providers"

Evidence

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Reuters Insources Software Development Offshore

Published: 29 July 2003

Analyst(s): Dion Wiggins

Through refined processes and continuous training, Reuters has moved a large part of its software development from the United States and Europe to a more-efficient, cost-effective development center in Thailand.

What You Need to Know

Reuters has built a solid model for success through process, training and a culture of knowledge sharing and continual improvement — combined with a well-thought-out, progressive strategic sourcing plan aimed at how to achieve goals rather than what to produce. Clearly defined, progressive objectives that consider the advantages and disadvantages of each location, using insourcing and outsourcing models, are essential for enterprises seeking to move offshore. Not-so-obvious costs such as telecommunications must not be overlooked when considering moving offshore; they can be difficult to correct later.

Case Study

Reuters Software (Thailand) has an office in Bangkok, Thailand, with 278 employees working as a service organization to internal product managers and service owners from Reuters' news and financial services companies worldwide (see www.about.reuters.com/aboutus/overview/ and www.reuters.com). This model of offshore insourcing has proved to be a successful, cost-effective alternative to offshore outsourcing and using internal staff based in the United States and Europe.

Problem

During the 1980s and 1990s, Reuters experienced a period of rapid growth, acquiring small and large companies around the globe, which resulted in many distributed development sites and poor communication between sites. In such an environment, it was difficult to implement a single, unified development strategy and ensure that valuable resources were not wasted through duplication and lack of coordination across geographies.

Reuters has more than 800 client-facing products, many of which is are in the care and maintenance phases of their life cycles, with only bug fixes and minor functional enhancements being performed as products are phased out and users make the transition to more-strategic

Reuters products. Because of resource constraints, supporting products in Reuters' traditional development locations did not always allow for all the features that clients were asking for to be delivered in a timely manner, resulting in client dissatisfaction and a poor reputation for supporting some product lines.

Objective

During the mid-1990s, Reuters concluded that it needed to upgrade its product development and maintenance processes. Changes were needed to improve customer satisfaction, deliver software in an efficient, cost-effective manner, and optimize resource utilization to accelerate strategic new product development.

Approach

1. Measuring the Size of the Problem

Reuters' first step was to gauge the magnitude of the problem. During a nine-month period spanning 1996 to 1997, a project called Blueprint was launched to catalog and produce an inventory of development locations, and their respective areas of expertise and products. Reuters identified 80 software development and maintenance locations worldwide, with some functionality being duplicated as many as six times.

2. Creating a Strategy

In 1998, Reuters formulated a consolidation strategy and looked for an offshore destination that would be suitable for providing care and maintenance services for client software products. By relocating these services, some established locations would be moved, downsized or closed. Reuters determined that by using a consolidated development center, a staff of 200 would be needed to care for and maintain established products, providing bug fixes and minor functional enhancements only. These staff would not be used to develop new products or provide major new enhancements to core products.

3. Determining Offshore Location and Model

India, Vietnam, China, Eastern Europe and Thailand were considered as possible locations for a high-capacity development center specializing in software care and maintenance. China was ruled out because its legal system lacked the desired degree of transparency. At the time, the pool of available talent in Vietnam was considered too small. The Eastern European countries were either not cost-competitive or lacked sufficient infrastructure.

Why Thailand? Thailand was added to the list of companies to consider as destinations because of Reuters' 1997 acquisition of Bisnews, a supplier of low-cost terminals to the Thai domestic equity markets with a development team of approximately 40 people. Reuters didn't acquire the company for its developers, but for its business. Reuters' initial reaction was that it did not need the development team; about 25 percent of the team were terminated. The remaining team members

continued to support and enhance the domestic product line, and became involved in regional development projects and development for the Reuters Consulting unit.

In late 1996, Reuters formally adopted the Capability Maturity Model (CMM). The Thai developers impressed Reuters' U.K. management by quickly embracing CMM and becoming one of the first Reuters IS groups to be certified at CMM Level 2. Management continued to be won over by the Thai workers' skills and work quality. When management began to focus on a consolidation strategy, Thailand was considered a possible destination as a direct result of the impressive efforts of the Thai developers.

India may have seemed the obvious place to develop software for such high-profile products. Reuters was already outsourcing the development and maintenance of some internal systems to Satyam Computer Services, one of the leading Indian offshore IT service providers, and was happy with Satyam's services. Reuters investigated insourcing and outsourcing options from different regions. Outsourcing software care and maintenance to Indian service providers would cost 40 percent to 50 percent of what it would in the United Kingdom; using an insourced model in Thailand would cost 18 percent of what it would in the United Kingdom.

Another factor for selecting Thailand was the nature of the work itself. Internal systems scope is relatively static and easy to define, while the scope of client-facing products is much more dynamic, with priorities changing quickly and a more-rapid response from developers required. Reuters decided that an outsourcing model would not provide the level of control necessary for such an agile set of client-facing products.

Insourcing in India was also considered. However, the IT market there is very competitive — Reuters would be competing with hundreds of other companies for India's top IT workers, and would be forced to offer higher levels of compensation to attract the best and brightest. In Thailand, Reuters could leverage its first-mover advantage, cherry-picking from the best workers available and gaining considerable brand equity as an employer. Competition for top IT graduates is not as fierce as in India. As Reuters increased its staff, it would not be greatly affected by other entrants to the market. Reuters was also able to gain tax and other incentives through the Thai government's Board of Investments. All of these factors made Thailand attractive.

4. Getting the Business Case Approved

During the first three steps, business, governance and management models were fleshed out as part of the overall costing exercise. After selecting Thailand, the models were quickly fine-tuned and turned into a solid business case, which was submitted to management in late 2000 and approved three months later in early 2001 — which by Reuters' own admission was a fairly short decision process.

Results

Quality: Many companies opt for offshore development with the primary goal of reducing costs by deploying a similar level of resource at a lower cost per resource. Reuters' primary goal was to improve the level of service delivered to clients by increasing the number of resources applied to

tasks; in some cases the increase was as much as nine times. Reuters can now handle more change and feature requests from clients and deliver them faster. Customers are more satisfied, and Reuters' reputation for poor support and service is being turned around.

Respect and Efficiency: At first, the selection of Thailand produced skepticism in many parts of the enterprise, especially in locations that were directly affected by the restructuring. Many IS organization workers believed that fresh graduates could not replace them. However, because of Reuters' rigorous training and culture of knowledge transfer and sharing, the Thai software operation proved its efficacy and earned respect companywide. Initially, Thai developers were only responsible for caring for and maintaining established products. However, because of their success, the objectives of the Thai development center have changed; it is now developing strategic products. High-level functions, such as architecture and design, remain in the United States and Europe; low-level implementation, design, and testing of many products have begun to move to Thailand.

Critical Success Factors/Lessons Learned

The keys to success for Reuters have been a rigorous adherence to process and an intensive training and knowledge transfer program, combined with a thorough, well-executed strategic sourcing plan.

Critical Success Factors

Process: Reuters employs several CMM experts. The company is currently at CMM Level 3, with plans to reach CMM-Integrated Level 5 by year-end 2003. Reuters' global head of process technology relocated from London to Bangkok in July 2002 to support the Thai software process improvement full-time. Strict process enforcement helps to maintain staff excellence, product quality and clear communications between product owners and the Thai staff.

Recruitment: More that 80 percent of Reuters' Thailand staff have been recruited from the top 10 percent to 15 percent of the IT graduates from Thailand's leading universities during the past three years. Graduating students carry no "baggage" from previous employment, so it is easy to indoctrinate them in company processes and standards

Between April 2003 and June 2003, Reuters recruited 40 new graduates. As a result of being a major employer of new graduates, several of the newer universities, such as Kasetsart and Thammasat, are working with Reuters to improve their curriculums. Reuters supports the universities by allowing site tours and providing CMM training to students at the universities.

Reuters is constantly looking for skilled workers with solid industry experience, but they are becoming harder to find. Many workers who have held roles such as project manager have not had formal training and lack discipline in process and management skills.

Training: Reuters has launched an intensive training scheme to constantly improve staff skills and bring them up to the level required for its ambitious projects. An in-house training facility with two full-time trainers ensures that new recruits and established staff continuously improve their skills. Additional trainers from abroad frequently provide instruction specialist topics.

University graduates who join Reuters are put though a one-month training program that includes a company orientation, a technology and architecture overview, and advanced programming courses in C++ and Java. They are assigned to a transition project and sent to a transitioning product development location for three to six months of training.

A culture of knowledge sharing, continuous personal improvement and adherence to clearly defined processes enables Reuters to bring a university graduate up to project leader level in as little as two years. Many are up to the challenge and often exceed expectations.

Language: Although English is not spoken natively in Thailand, many of the staff have strong conversational and written English skills. Although not all staff are required to have strong English skills, strong English is important for those facing internal clients such as product managers outside of Thailand. All direct reports to the technical director must have strong English skills. The company's knowledge-sharing culture encourages workers with a good grasp of English to help those with lesser skills. Three training sessions per week (two in conversational English and one in business English) are conducted at Reuters training facilities by teachers from local English language schools.

Knowledge Transfer: Knowledge transfer has been reasonably successful. New recruits in Thailand are sent to the original product development locations in the United States and Europe for knowledge transfer; employees who are moving are also frequently sent to Thailand for knowledge transfer before their departures. Some knowledge gleaned from longtime domain experience is more difficult to transfer. At first, new employees can have difficulties dealing with and investigating fault reports and enhancement requests. Key staff mitigate such problems by working with new recruits immediately on their arrival at the transitioning product development center.

Staff Terminations and Relocations: It is never pleasant to terminate staff, and it's even harder when employees with more than 15 years at the company see their positions move overseas. Reuters was keenly aware of these issues, giving the affected employees as much notice as possible or offering them positions elsewhere in the company. Key development staff at product development locations whose functions are being moved are encouraged to participate in the transition process, and are offered retention bonuses for successful project completion. Employees facing job loss or relocation are treated well. As a result, Reuters has minimized the difficulties of making the transition to new employees.

Lessons Learned

Communications: The original objective for Reuters' Thai development center was to provide care and maintenance, so communications bandwidth was not considered important. With the decision to relocate some strategic product development to Thailand, bandwidth requirements have changed. Because of stringent telecommunications regulations, Thailand has the most-expensive international communications infrastructure in the Asia/Pacific region. A recent price quote for a redundant 45-Mbps link to the United States came in at close to $400,000 per month. Reuters is seeking lower-cost solutions, because this level of expense makes much of the work in Thailand financially unfeasible. Currently a lower-speed link is used, forcing Reuters to move work to Singapore, where bandwidth is affordable, but salaries and facilities costs are higher. Experiments

are under way to establish servers in Singapore and connect to them remotely for testing from Thailand, which may be a viable work-around. Many enterprises are facing similar issues, with job opportunities in Thailand suffering as a result.

Key Issues

Which trends and external forces are driving changes in workplace strategies?

This research is part of a set of related research pieces. See Outsourcing Backlash: Globalization in the Knowledge Economy for an overview.

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Stop Outsourcing and Begin Disciplined Multisourcing

Published: 23 February 2006

Analyst(s): Linda R. Cohen, Allie Young

This report explains what multisourcing is and how your enterprise can implement it. It also presents five questions that organizations must ask before they outsource any IT service.

Key Findings

- Many outsourcing deals fail to live up to their potential because of the widespread use of outsourcing in an ad hoc, compulsive way to solve current business problems.

- Organizations must adopt disciplined multisourcing to consistently deliver seamless, integrated services from internal and external sources.

- Organizations must change the sequence of their sourcing decision processes.

Predictions

- Through 2010, organizations that continue to apply outsourcing as an ad hoc solution to tactical business problems will be dissatisfied with the performance of their contracts more than 70 percent of the time.

- By 2010, market leaders will instill disciplined multisourcing as a core competency for successful business operations. Lack of multisourcing management discipline will result in large-scale business disruption among buyers, suppliers and their value chains.

Recommendations

- Develop multisourcing as a core discipline in your organization to guide your sourcing strategy. You will never achieve optimal business performance without a well-planned and integrated sourcing strategy.

- Understand the importance of sequential choices and decisions in implementing your sourcing strategy. Begin by methodically examining why the sourcing model must change, what services should be considered to meet those goals, who can best perform those services, and finally, how and where the work should be done.

- Use the Gartner multisourcing frameworks to guide you in the review and implementation of your sourcing strategy.

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1.0 Introduction

The dynamic for outsourcing success is changing rapidly. The typical goals of lower costs and improved performance are losing ground to misspent funds and wasted effort.

The root of the problem lies within an organization's outsourcing practices. To turn those practices around requires a new way of thinking. It requires organizations like yours — whether new to outsourcing or a practiced veteran — to embrace a new operational model that is strategic, repeatable and reliable.

We've pioneered that model at Gartner, and call it "disciplined multisourcing." It offers an important approach to creating a seamless and cohesive service environment that responds rapidly to change and delivers measurable business results. And it comes at a time when investors are insisting that companies have well-articulated plans for outsourcing services externally.

1.1 Compulsive Outsourcing

Although its benefits continue to be debated in the popular press, outsourcing is now considered an established business practice. This has led to more outsourcing deals — but not necessarily "good" deals. Eventually, a step is missed somewhere, and service is disrupted. "Outsourcing" is blamed, and a specific outsourcing deal may be regarded as a disappointment or even a failure.

Gartner calls this trend "compulsive outsourcing." Your organization probably compulsively outsourced if you outsourced:

- Simply to save money

- Because your competition was doing it

- Without a sourcing strategy directly aligned with your business strategy

- Without first developing the competency to effectively manage relationships with your service providers

- Because your CEO stopped asking, "Should we outsource?" and started mandating outsourcing or offshoring

Problems from compulsive outsourcing arise when sourcing actions are taken serially and tactically rather than strategically. This error creates a domino effect:

- Organizations struggle to manage and integrate internal and an ever-growing number of external service providers.

- Tactical outsourcing actions fail to align and integrate with changing business needs.

- Failure to integrate leads to suboptimized operations.

- Suboptimized operations lead to redundancy, higher costs and service disruption.

This domino effect prevents organizations from responding quickly to business needs (including accessing the skills and technology you need when you need them). Eventually, compulsive outsourcing breeds chaos that makes it harder to achieve business goals. Potentially, compulsive outsourcing can disrupt your business operations, constraining growth and eroding profit.

1.2 Disciplined Multisourcing vs. Compulsive Outsourcing

Gartner is not saying "don't outsource." We are saying that organizations must stop outsourcing the old way — compulsively — and must begin to use a more strategic, structured and disciplined approach — what we call "multisourcing." Multisourcing is *not* synonymous with "selective outsourcing," the widespread practice of using multiple providers for best-of-breed service provisioning. Over-applied selective outsourcing created much of the chaos of compulsive outsourcing. Think of multisourcing as the overarching framework for optimizing sourcing strategies and actions.

Table 1 shows why organizations need a new approach for making sourcing decisions. When we compare attributes of ad hoc outsourcing to those of disciplined multisourcing, we see how compulsive outsourcing likely fails to align with a business's goals and long-term strategic objectives.

Table 1. Compulsive Outsourcing vs. Disciplined Multisourcing

Outsourcing Actions	Multisourcing Disciplines
Ad hoc/reactionary	Strategic and repeatable
Tactical event	Studied operated model
Problem-focused	Outcome-focused
Reactive, compulsive	Predictive, monitored, measured
Situational reaction	Comprehensive, disciplined
Separated	Integrated
Managed metrics	Governed outcome
"Supplier" relationship	"Partner" relationship
Command and control	Trust and control

Source: Gartner (February 2006)

1.3 Multisourcing Defined

Gartner's definition: *Multisourcing is the disciplined provisioning and blending of business and IT services from the optimal set of internal and external providers in the pursuit of business goals.*

Multisourcing is a new management discipline. Although it is an emerging concept, we believe it will be the dominant model of the future. Companies that master multisourcing now will be well-positioned to lead their industries and drive competitive advantage. Companies that continue to outsource in a compulsive or tactical way will constantly operate at a disadvantage to competitors that embrace multisourcing. Those that adhere to the new discipline of multisourcing can better

focus management efforts, resources and capital on the functions that deliver differentiation and value to customers.

Multisourcing is an opportunity to excel — to effectively meet the needs of the business, to be more agile and responsive, and therefore, to drive significant added value for customers and shareholders. Disciplined multisourcing delivers an integrated and seamless service operation. From basic IT services to complex business processes, an organization that embraces multisourcing will draw its services and capabilities from a blend of internal and external sources that help the organization meet its goals for cost-efficiency, agility and growth.

This transformation is not easy. Organizations that want to adopt multisourcing must be prepared to undergo a lot of change. They need commitment and investment, and a deep understanding of the principles and new approaches of multisourcing to be successful.

2.0 Begin By Turning Outsourcing Decisions Upside-Down

Begin to build a multisourcing strategy by turning your traditional approaches to outsourcing decisions upside-down. Compulsive outsourcing typically begins with a scenario something like one of these:

- An executive, looking at the bottom line, asks, "Why don't we outsource more?"

- An executive, pressed to implement a new strategy, realizes critical skills are lacking and immediately responds, "Why don't we outsource it?"

- An executive, hearing that his or her company's biggest competitor has outsourced, rallies his team and frantically questions, "Why aren't *we* outsourcing?"

Invariably, in each of these scenarios, the executive's staff moves into action. The staff draws up a list of service providers, what options they offer and what services they deliver best.

With this approach, the most important question is never really sorted out: the "why" of outsourcing. The organization never explores why it is considering outsourcing and it never looks at how sourcing decisions align with, support and affect its strategic business objectives.

Companies must begin by critically asking *why* they seek to outsource. Until senior executives all agree on why outsourcing is necessary to achieve business goals, the staff cannot confidently proceed. When impulsive decisions to outsource are made, companies are rarely able to articulate the true desired outcomes, so they cannot measure success. They also cannot get consensus about why the business is changing its delivery model. Our research shows that, in many cases, senior executives have differing and often-conflicting goals for outsourcing. This lack of executive consensus is one of the main reasons why outsourcing deals fail.

3.0 The Five Questions of Multisourcing

In multisourcing, Gartner recommends a different approach — a reordering of the sourcing decision process. Developing successful sourcing strategies must begin with asking these questions, *in this order*:

- *Why* are we sourcing? (Is the business goal to save money, improve operations or boost business performance?)

- *What* services and functions should we consider to meet those goals? (Across the enterprise, what services or processes are candidates for a sourcing review?)

- *Who* can best perform or deliver these services to meet the goals? (Should the job be performed in-house or outsourced to external resources?)

- *How* should the work be done? (Do we want a customized or standard service/process?)

- *Where* should the work be done? (Will this work be performed domestically/onshore or nondomestically/offshore?)

Let's look at each of these questions in more detail.

3.1 Why Are We Sourcing?

To answer the first question, analyze your business goals and objectives. We identify three different sourcing objectives (see Figure 1):

- *Efficiency* focuses on cost improvement

- *Enhancement* focuses on operational improvement

- *Transformation* focuses on business performance improvement

Figure 1. Sourcing Relationship Models
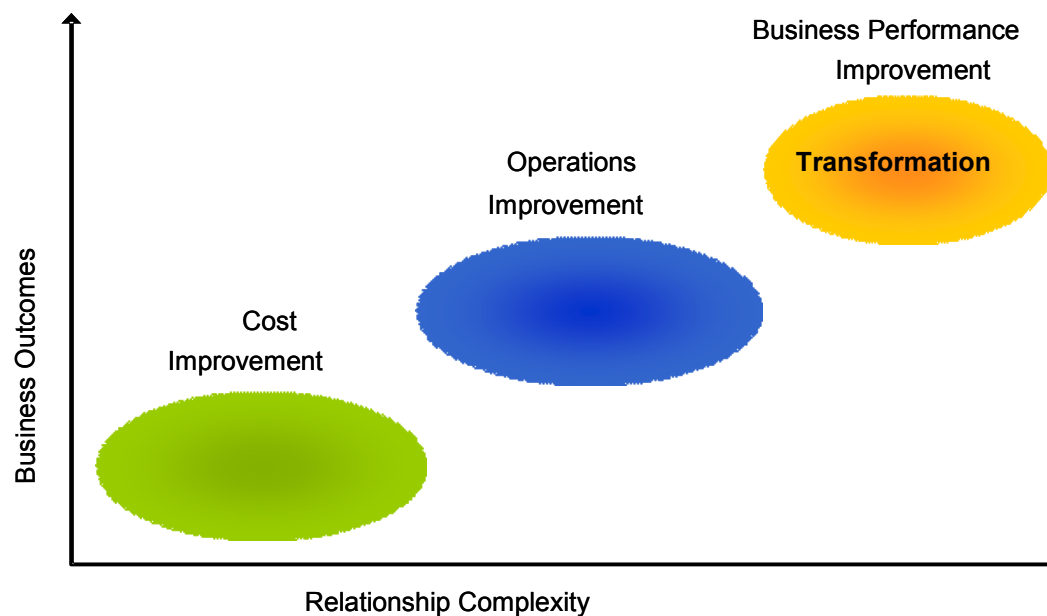
Source: Gartner (February 2006)

Each of these sourcing relationship models requires different management and measurement schemes, leading to different deal structures. In an efficiency deal, for example, metrics and service-level agreements (SLAs) will be tied to cost improvement. In a transformational deal, the service provider is paid for business performance improvement, such as increasing margins, opening access to new customers or helping manage growth.

Furthermore, organizations must recognize that sourcing decisions are not static. Just as business directions, needs and priorities change over time, sourcing relationships also must change to accommodate the business. Efficiency goals may be the impetus for outsourcing, but over time, organizations may see the need for enhancement or even transformation. Conversely, an enhancement or transformation deal must evolve to an efficiency deal over time to ensure optimum cost and performance.

As part of asking "why," organizations must periodically scrutinize their outsourcing relationships to determine if the current (or original) relationship model is still appropriate. Contracts must be flexible enough to anticipate and accommodate the evolution to new relationship models as necessary. SLAs must be reviewed and renewed periodically to realign expectations and outcomes should the relationship model change or need refreshing.

3.2 What Services and Functions Should We Consider? Who Can Do This Job for Us?

Keeping the three relationship models in mind, companies should then focus on "what" and "who." Look at these two questions together, since they are closely aligned.

Behind all sourcing decisions are two fundamental issues about the service or process being considered for outsourcing:

- The organization's competence to perform the work
- The level of differentiation value the organization receives from that service or process

Figure 2 provides a framework to assist in this review process. It shows where the three types of outsourcing relationships fit in with a company's competence and differentiation value.

Figure 2. Competence and Differentiation

Value to Differentiate
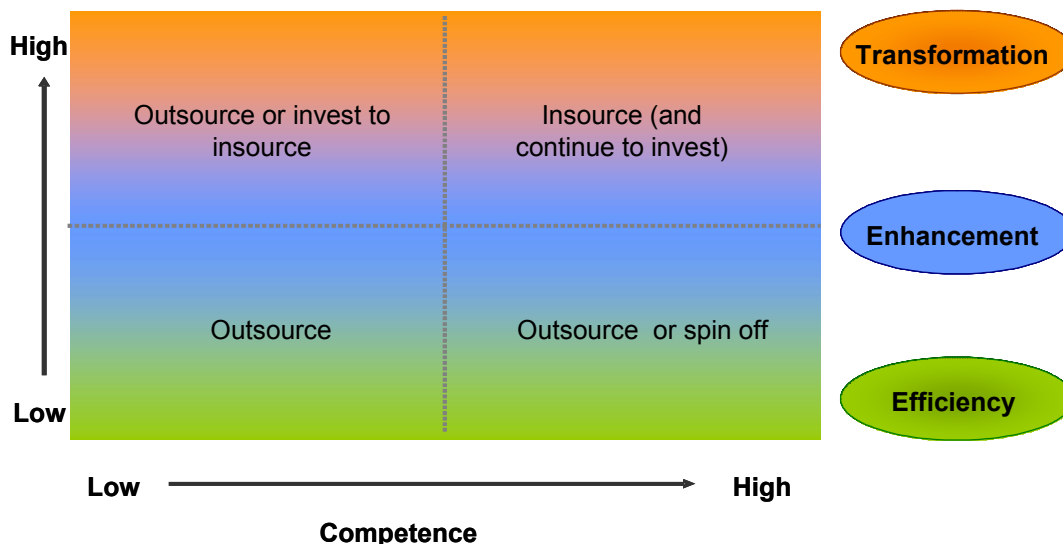
Source: Gartner (February 2006)

Organizations should objectively plot each service and process into this framework that it relies on, according to the level of competency and the competitive differentiation afforded. Your organization will need objectivity and candor to undertake this analysis. You may need help from a third party to assist in this evaluation.

This step accomplishes two things:

- It sets up a list of the entire range of work that your organization must consider in its sourcing decision making. It helps answer the question: "What services and functions should we consider?"

- It begins to indicate whether this work should be done in-house or outsourced. It helps answer the question: "Who can best supply these services?"

If the service or process provides a high differentiation value and your organization has a high level of competence, you probably should invest in keeping the job in-house. If you receive competitive value from the service/process, but have only moderate competency, then you must invest to increase your competence or outsource.

When evaluating the best source for services, remember that you will need sustainable high levels of competency to maintain the high value that differentiates you from your competition. Sometimes, the ability to attract, retain and continuously re-skill internal resources at a high level of competency can be expensive, so sustaining those services or processes that highly differentiate you in the market may lead to a decision to outsource.

3.3 How Should the Work Be Done?

To determine how your service should be delivered, you need to understand the changing dynamics of the IT services industry. Figure 3 provides Gartner's framework, "The Four Worlds of Sourcing," a model that helps organizations understand what their real delivery options are for services and processes *before they go shopping.*

Figure 3. The Four Worlds of Sourcing
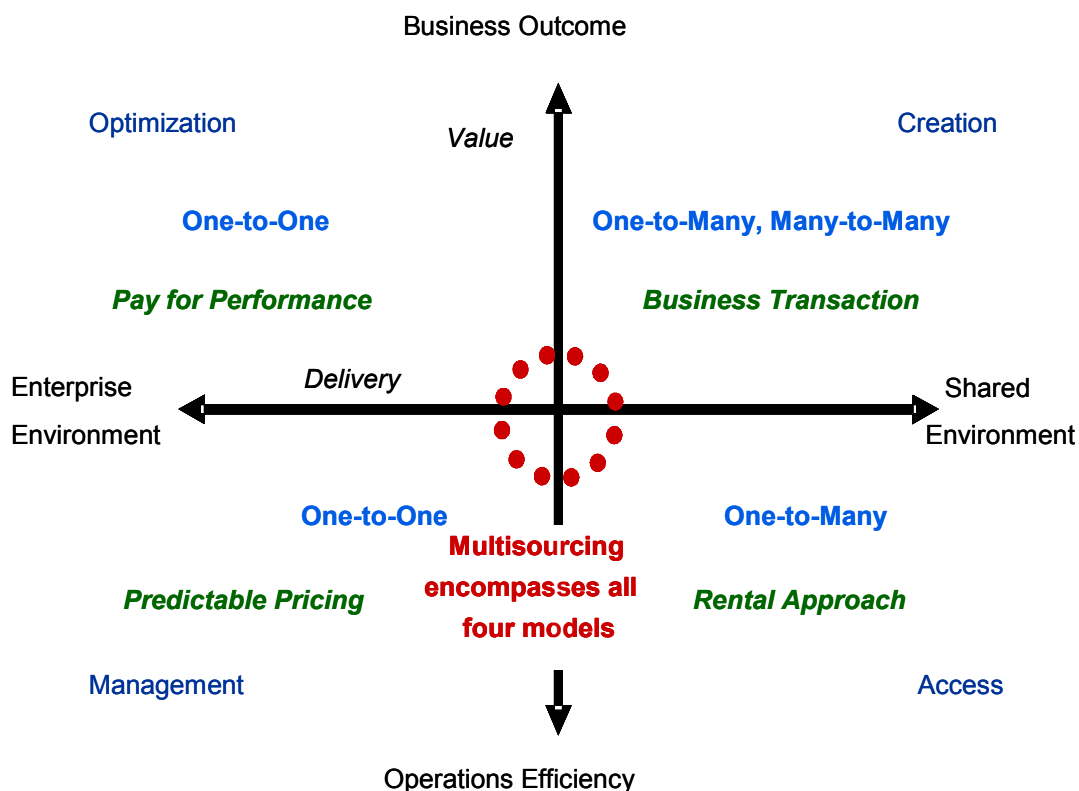
Source: Gartner (February 2006)

The Four Worlds of Sourcing framework helps organizations visualize two aspects of their decisions: the desired delivery (custom or standard) and the value (operational efficiency or business outcome). Companies that interpret their environments in this framework of the IT services market will have a more-holistic understanding of their sourcing possibilities. If they decide to outsource, they will know which vendor relationship models to look at and which delivery and pricing models to expect from these providers.

The details of each axis are:

- **Value:** The vertical axis shows the value of a service by its direct impact on business goals. In operational efficiency, the goals could range from increasing cost-effectiveness or process effectiveness. Typically, the benefits of operational outcomes affect other services and processes built on these services. At the top is business outcome — services that have a much

more direct impact on business goals. They are services that enable more-complex and difficult-to-measure outcomes such as brand dominance, revenue enhancement, early-mover advantage or competitive advantage.

- **Delivery:** At one end of the axis are services that are customized to a specific organization's environment in a one-to-one relationship model. At the other end of the delivery axis is standardization — a one-to-many service in which the organization adapts to the way the service is delivered, rather than the other way around. The basic principle of standardized service focuses on scalability and cost. The greater the economies of scale, the lower the cost of the service. With standardized service, however, organizations must forgo high levels of customization in favor of a repeatable, leveraged service.

3.4 Where Will the Work Be Done?

Globalization has dramatically altered the entire spectrum of business activity. It is at the heart of the last question to consider in your sourcing decision — where services and processes will be delivered.

In Figure 4, we categorize service delivery locations as domestic or nondomestic (nearshore or offshore) in relation to service consumers. The consumers can be business units, departments of the organization or customers. We also consider the ownership of the service delivery resources — internal resources or external resources.

Figure 4. Service Delivery Locations
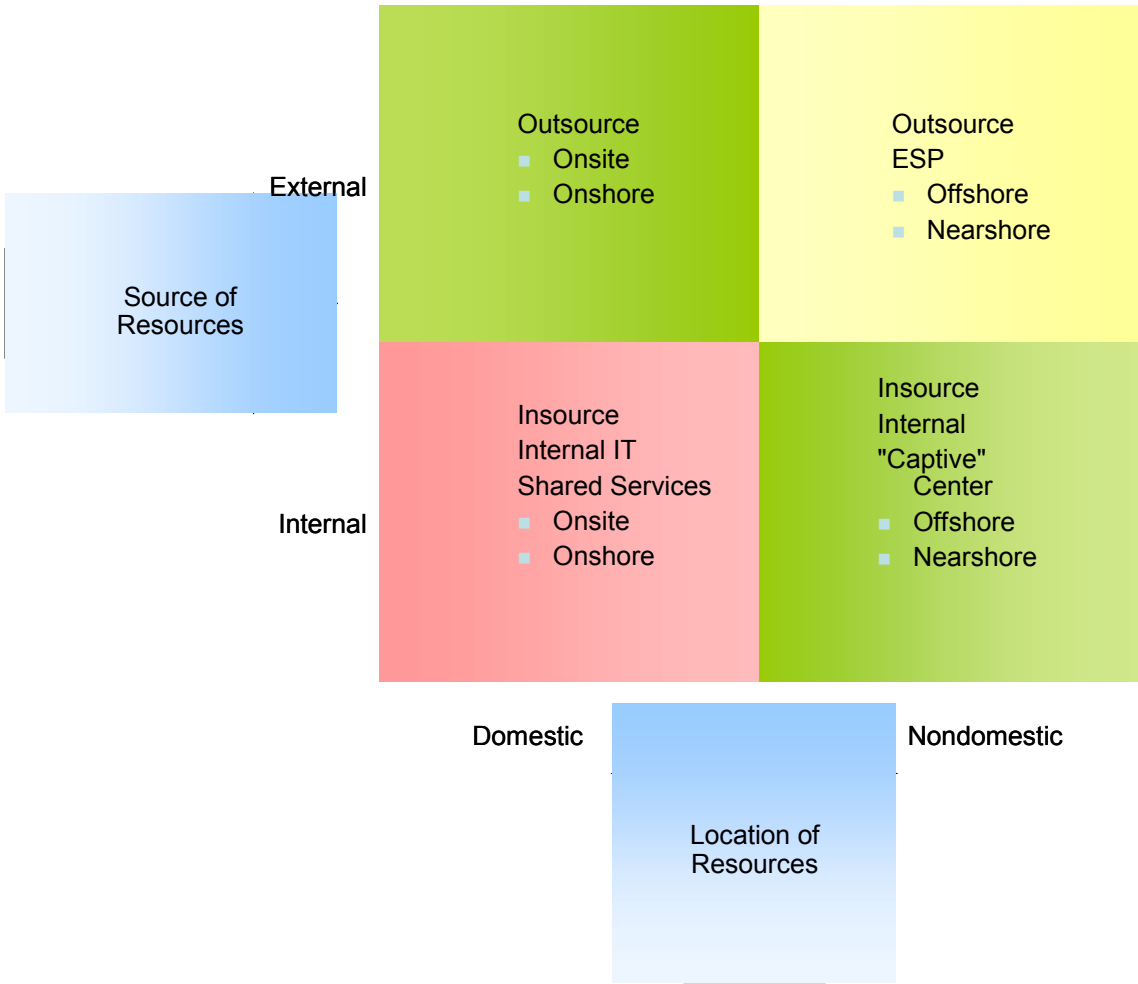
Source: Gartner (February 2006)

Consider these four possible service delivery options in terms of location:

In-house, domestic: These services are internally built and maintained, with personnel and resources in the same country as that of the service consumer.

In-house, nondomestic: These services are delivered in a different country than the organization, using the organization's staff and resources (also known as a "captive center").

Outsourced, domestic: These services are bought from an external service provider, with personnel and resources in the same country as that of the service consumer.

Outsourced, nondomestic: These services are bought from an external service provider, with personnel and resources in a different country from that of the service consumer.

These categories represent binary choices between in-house and outsourced; however, we are seeing more blends of domestic and nondomestic resources to deliver services.

4.0 Recommendations

Multisourcing will be the dominant model of the future. Organizations that master it now will be positioned to lead their industries and drive competitors out of business. Those that refuse to change will constantly be operating at a disadvantage to competitors that are better able to focus management efforts, resources and capital on the functions that deliver differentiation and value to customers.

We recommend these actions:

- Develop multisourcing as a core discipline in your organization to guide your sourcing strategy. You will never achieve optimal business performance without a well-planned and integrated sourcing strategy.

- Understand the importance of sequential choices and decisions in implementing your sourcing strategy. Disciplined multisourcing always begins with "why" and subsequently focuses on what, who, how and where.

- Use the Gartner multisourcing frameworks to guide you in the review and implementation of your sourcing strategy. These frameworks can be tailored to reflect your organization's unique services and processes needs, but will require holistic and comprehensive analysis.

Recommended Reading

"Multisourcing: Moving Beyond Outsourcing to Achieve Growth and Agility" (Cohen, Young), Harvard Business School Press (November 2005)

This research is part of a set of related research pieces. See Adopt Disciplined Multisourcing in Your Organization for an overview.

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