



GRADUATE SCHOOL
ISTANBUL MEDENIYET UNIVERSITY
DEPARTMENT OF POLITICAL SCIENCES AND PUBLIC
ADMINISTRATION

**The Potential Impacts of Using Artificial Intelligence
on Public Administration
Comparative Study: Türkiye & UAE (2018-2024)**

PhD Thesis

Renad AlMajdalawi

June 2025



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THESIS JURY APPROVAL

This PhD thesis titled “The Potential Impacts of Using Artificial Intelligence on Public Administration Comparative Study: Türkiye & UAE (2018-2024)” written by Renad AlMajdalawi at the Department of Political Sciences and Public Administration was accepted by our jury.

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STATEMENTS

Style and Reference Manual Statement

Having reviewed this thesis written under my supervision, I confirm that it has been written in accordance with APA Manual of Style and used its [footnote/in text] reference format consistently throughout the entire text.

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Declaration of Originality

I hereby declare that all information in this dissertation has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conducts, I have fully cited and referenced all material and results that are not original to this work.

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Renad AlMajdalawi

GENİŞ ÖZET

Kamu Yönetiminde Yapay Zeka Kullanımının Olası Etkileri: Karşılaştırmalı Bir Çalışma - Türkiye ve Birleşik Arap Emirlikleri (2018-2024)

AlMajdalawi, Renad

Doktora Tezi, Siyaset Bilimi ve Kamu Yönetimi Anabilim Dalı

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Haziran 2025

Yapay Zeka (YZ), kamu yönetiminde dönüştürücü bir güç olarak ortaya çıkmakta ve verimlilik, duyarlılık ve hizmet sunumunda potansiyel kazanımlar sunmaktadır. Dünya çapındaki hükümetler dijital modernizasyon ve idari reformun ikili zorunluluklarıyla karşı karşıya kaldıkça, YZ teknolojileri kamu sektörü operasyonlarını yeniden şekillendirmeyi ve vatandaş-devlet ilişkilerini yeniden tanımlamayı vaat ediyor. Ancak YZ'nin kamu yönetimine entegrasyonu, etik, hesap verebilirlik, düzenleyici yeterlilik ve sosyo-politik sonuçlar konusunda da acil endişeler doğurmaktadır.

Bu tez, stratejik olarak önemli ancak yapısal olarak farklı iki ülkede kamu yönetiminde YZ benimsenmesinin karşılaştırmalı bir analizini sunmaktadır: Türkiye ve Birleşik Arap Emirlikleri (BAE). 2018'den 2024'e kadar olan dönemi kapsayan çalışma, bu ülkelerin ilgili yönetim modellerinin, kurumsal kapasitelerinin, dijital stratejilerinin ve politik ortamlarının YZ yörüngelerini nasıl etkilediğini araştırmaktadır. Teknoloji Kabul Modeli'ne (TAM) dayanan nitel bir metodoloji aracılığıyla, kurumsal ve etik yönetim çerçeveleriyle desteklenen araştırma, yönetimde yapay zeka odaklı dönüşümün fırsatlarını ve zorluklarını araştırıyor. Seçkin paydaşlarla yapılan yarı yapılandırılmış görüşmeler ve ulusal politikaların ve stratejik belgelerin incelenmesi temel veri kaynakları olarak hizmet ediyor.

Siyasi bağlam, AI'nın yönetişimde benimsenmesini önemli ölçüde şekillendirir. BAE gibi merkezi yönetişim modellerinde, AI benimsenmesi dijital dönüşümü önceliklendiren yukarıdan aşağıya ulusal stratejiler tarafından yönlendirilir. Tersine, Türkiye gibi ülkelerde, AI benimsenmesi düzenleyici ve ekonomik faktörlerin bir kombinasyonundan etkilenir ve bu da daha kademeli ve uyarlanabilir bir entegrasyon süreciyle sonuçlanır. Salamon'un

Yönetişim Araçları Çerçevesi, farklı yönetim modellerinin AI uygulamasını nasıl etkilediğini değerlendirmek için kullanılır ve ulusal politikaların, liderlik direktiflerinin ve idari yapıların AI yönetişimini ve kamu sektörü inovasyonunu nasıl etkilediğine dair karşılaştırmalı bir analiz sunar. Siyasi liderlik ve vizyon, hükümette AI inovasyonunu katalize etmede ve sürdürmede temeldir. BAE, merkezi liderliğin, stratejik öngörünün ve özel kurumların hızlı dönüşümü nasıl sağlayabileceğine örnek teşkil ediyor, ancak bunun gözetim, katılım ve etik inceleme mekanizmalarıyla dengelenmesi gerekiyor

Araştırma Amaçları

Araştırmanın amacı:

- Türkiye ve BAE'nin ulusal AI stratejilerini nasıl geliştirdiğini ve uyguladığını incelemek.
- AI benimsemesiyle ilişkili kurumsal ve bürokratik zorlukları araştırmak.
- Kamu görevlileri, politika yapıcılar ve vatandaşlar arasında AI algılarını değerlendirmek.
- Yönetimde AI kullanımının etik, sosyal ve yasal etkilerini keşfetmek.
- Karşılaştırmalı içgörüler ve pratik politika önerileri sağlamak.

Teorik Çerçeve

Teknoloji Kabul Modeli (TAM), çalışmanın temelini oluşturur ve iki temel değişkeni vurgular:

- Algılanan Faydalılık (PU) – AI'nın idari performansı iyileştirdiğine dair inanç.
- Algılanan Kullanım Kolaylığı (PEU) – AI'nın asgari çabayla kullanılabileceğine dair inanç.

Kamu yönetiminde AI benimsemesinin karmaşıklığını ele almak için TAM şunlarla tamamlanır:

- Etik AI Yönetim Çerçeveleri – adalet, şeffaflık ve hesap verebilirliği ele alır.
- Otomasyon Teorilerine Güven – vatandaşların ve yöneticilerin algoritmik sistemlere olan güvenini değerlendirir.
- Kurumsal Teori – resmi ve gayri resmi kuralların AI entegrasyonunu nasıl şekillendirdiğini değerlendirir.
- Salamon'un Hükümet Araçları Çerçevesi – politika araçlarını verimlilik, etkinlik, eşitlik, yönetilebilirlik ve politik uygulanabilirliğe göre değerlendirir.

Metodoloji

Çalışma nitel, karşılaştırmalı bir vaka çalışması tasarımı kullanır. Veri kaynakları şunları içerir:

- Her iki ülkedeki politika yapıcılar, teknoloji uzmanları ve kamu yöneticileriyle yarı yapılandırılmış görüşmeler.
- Yapay zeka uygulamasıyla ilgili ulusal politika belgeleri, strateji belgeleri ve resmi raporlar.
- Tematik analiz, desenleri ve içgörülerini çıkarmak için yanıtları karşılaştırmalı kategorilere kodlama.

Çalışmanın Önemi

Çalışmanın önemi, Türkiye ve BAE'de kamu yönetimindeki yapay zeka odaklı dönüşümlerin karşılaştırmalı analizinde yatmaktadır. Orta Doğu'daki gelişmekte olan ekonomilerin ve teknolojik açıdan hırslı ülkelerin yapay zekayı yönetişime nasıl entegre ettiğini anlamadaki boşluğu ele almaktadır. Bu iki ülke yapay zeka benimsemesinde bölgesel liderlerdir ve bu da onları ideal vaka çalışmaları haline getirir. Araştırma, yapay zekayı kamu yönetimine sorumlu ve etkili bir şekilde entegre etmeye çalışan politika yapıcılar ve uygulayıcılar için içgörüler sunmaktadır.

Çalışmanın kapsamı şunları içerir:

- Yapay zeka politikalarının Türkiye ve BAE'de nasıl tasarlandığını, uygulandığını ve değerlendirildiğini incelemek.
- Yapay zeka politikası uygulamasını etkileyen faktörleri ve etkinliği değerlendirmek için ölçümleri analiz etmek.
- Vatandaş ve hükümet yetkililerinin yapay zeka odaklı kamu hizmetlerine ilişkin algılarını araştırmak, kamu güvenine, katılımına, erişilebilirliğine ve memnuniyetine odaklanmak.
- Verimlilik, şeffaflık ve hesap verebilirliği göz önünde bulundurarak yapay zekanın karar alma süreçleri üzerindeki etkisini değerlendirmek.
- Algoritmik önyargı, veri gizliliği ve dijital uçurum gibi etik ve toplumsal endişeleri ele almak. Yapay zekanın benimsenmesinin kamu sektörü istihdamı, karar alma özerkliği ve idari verimlilik üzerindeki uzun vadeli etkilerinin analiz edilmesi.

- Yapay zeka yönetimi, etik yapay zeka benimsenmesi ve kamu yönetimine göre uyarlanmış düzenleyici çerçeveler hakkında politika önerileri sağlanması.
- Kamu görevlileri arasındaki algıların benimseme davranışını nasıl etkilediğinin araştırılması.
- Benzerlikleri, farklılıkları ve en iyi uygulamaları belirlemek için BAE ve Türkiye'deki yapay zeka stratejileri ve uygulamalarının karşılaştırılması.
- Hükümet görevlileri, politika yapıcılar ve vatandaşlar tarafından yapay zeka teknolojilerinin kabulünü ve kullanımını etkileyen faktörlerin analiz edilmesi.
- Veri gizliliği, etik etkiler ve iş gücü yer değiştirmesi gibi yapay zeka benimsenmesinin önündeki olası engellerin belirlenmesi.

Bağlam ve Arka Plan

Dijital dönüşümün küresel hızlanması ve kamu sektörlerinde yapay zeka uygulamalarının yaygınlaşması, ülkeleri özel stratejiler benimsemeye yöneltti. Yapay zeka, hizmetleri otomatikleştirmek, kaynak tahsisini optimize etmek ve politika sonuçlarını tahmin etmek için kullanılırken, olgunluk düzeyi ve kurumsal hazırlık önemli ölçüde değişmektedir.

BAE, yapay zekada küresel bir lider olarak konumlanan merkezi, yüksek gelirli bir devlettir. Yapay zeka için bir Devlet Bakanı atayan ilk ülkeydi ve yapay zekayı tüm sektörlerle entegre etme gibi iddialı bir hedefle BAE Yapay Zeka Stratejisi 2031'i başlattı. Yapay zeka geliştirme için Türk Yapay Zeka Stratejisi gibi ulusal bir çerçeve olsa da, teknolojik hazırlık düzeyleri değişen yerel hükümetler ve kurumlar arasında koordinasyon sağlamak bir zorluk teşkil ediyor. Bu, farklı bölgelerin yerel ihtiyaçlara ve kaynaklara dayalı olarak farklı AI entegrasyon seviyelerini takip etmesiyle AI girişimlerinin parçalı uygulanmasına yol açabilir. BAE, federal hükümet düzeyinde dijital dönüşümün güçlü bir şekilde

Hibrit bir yönetim modeline sahip orta gelirli bir ülke olan Türkiye, daha temkinli ve merkezsizleştirilmiş bir yaklaşım benimsedi. Ulusal Yapay Zeka Stratejisi (2021–2025), kademeli değişime ve sektörel entegrasyona odaklanarak AB ve OECD dijital yönetim ilkeleriyle uyumludur. Bu farklı yollar, bu tezdeki karşılaştırmalı analizi çerçeveleyen daha geniş yapısal, politik ve kültürel farklılıkları yansıtır. Kamu yönetiminde yapay zekanın benimsenmesi, farklı siyasi yapıları ve yönetim modelleri nedeniyle Türkiye ve BAE

arasında farklılık göstermektedir. Türkiye'nin yaklaşımı ayrıca, inovasyon ve rekabetçi gelişime odaklanarak ülke çapında bir AI ekosistemini teşvik etmeyi amaçlayan stratejik kamu-özel ortaklıkları ve girişimleri tarafından şekillendirilmektedir. Türkiye Ulusal AI Stratejisi, hizmet sunumu ve karar alma için AI'dan yararlanarak kamu yönetimini optimize etmeyi amaçlamaktadır

Sektörel Uygulamalar ve Örnek Vaka İncelemeleri

Çalışmada YZ uygulamalarının aşağıdaki sektörlerde nasıl hayata geçirildiği incelenmiştir:

- **Sağlık:** BAE’de yapay zekâ ile hastane yönetimi ve hastalık tahmini; Türkiye’de e-nabız ve uzaktan sağlık çözümleri.
- **Eğitim:** Her iki ülkede de kişiselleştirilmiş öğrenme platformları.
- **Trafik Yönetimi:** BAE’de gelişmiş akıllı trafik sistemleri; Türkiye’de pilot uygulamalar.
- **İşgücü Yönetimi:** Özellikle BAE’de YZ tabanlı işe alım ve insan kaynakları süreçleri yaygınlaşmaktadır.

Etik Yönetişim ve Şeffaflık

YZ uygulamalarıyla ilgili etik endişeler her iki ülkede de belirgin bir şekilde ortaya çıkmıştır:

- Algoritmaların nasıl çalıştığı bilinmemekte, bu da şeffaflığı zedelemektedir.
- Veri gizliliği açıkları özellikle güvenlik ve gözetim alanlarında risk oluşturmaktadır.
- YZ’nin eğitildiği veri setlerinde mevcut olan önyargılar, sistemli ayrımcılıklara neden olabilmektedir.

Bu sorunları aşmak için önerilen önlemler arasında şunlar yer almaktadır:

- Etik denetim mekanizmalarının kurulması
- Şeffaf algoritma tasarımı
- YZ tabanlı kararların hesap verebilirliğinin yasal güvence altına alınması

SONUÇLAR VE BULGULAR başlıklı 4. Bölüm, karşılaştırmalı söylem çerçevesi içinde tematik bir analize dayalı olarak çalışmanın temel bulgularını sunar. Katılımcı görüşmelerinden yararlanarak, yapay zekanın Türkiye ve BAE'nin kamu sektörlerinde nasıl çerçevelendiğini ve uygulandığını araştırır. Bölüm, analizi bağlamlandırmak için yaş, cinsiyet, ülke ve mesleki geçmiş dahil olmak üzere katılımcı demografisinin genel bir görünümüyle başlar. Veriler kodlandı ve temaların yaygınlığını ve dağılımını vurgulamak için kod sıklıkları hesaplandı. Anlatıyı desteklemek için tanımlayıcı istatistikler kullanıldı ve farklı grupların her bir temayla nasıl etkileşime girdiğine dair daha net bir resim sunuldu.

Bölüm, ülke, yaş ve cinsiyet gibi demografik faktörlerin analizini içerir. Çalışmada katılımcıların %52'si Türkiye'den ve %48'i BAE'dendi. Katılımcıların cinsiyet dağılımı %87 erkek ve %13 kadındı ve katılımcıların %100'ü 35 yaşın üzerindeydi.

Bölüm ayrıca, sonuçları araştırma hedeflerine bağlayan açıklayıcı alıntılar ve istatistiksel özetlerle desteklenen temel temaları sunar. Bölümde incelenen temalardan bazıları şunlardır:

Tema 1: Ulusal Stratejiler ve Kurumsal Hazırlık

Her iki ülke de yapay zekayı yönetişimi modernize etmek için stratejik bir gereklilik olarak kabul ediyor. Ancak, stratejik yaklaşımları farklılaşıyor:

- BAE, güçlü yönetici liderliği, hızlı uygulama ve merkezi veri yönetişimi ile karakterize edilen yukarıdan aşağıya, merkezi bir strateji izliyor. Yapay zeka araştırma ve geliştirme, akıllı şehirler ve dijital kamu hizmetlerine büyük yatırımlar yapıyor.
- Türkiye, AB veri koruma yasaları ve OECD standartlarından etkilenen aşağıdan yukarıya, merkezi olmayan bir model benimsiyor. Stratejisi kurumsal iş birliğini, kademeli reformları ve sektöre özgü girişimleri vurguluyor.

Benzerlikler:

- Her iki ülke de kamu hizmetlerinde yapay zekaya öncelik veriyor.
- Yapay zeka, ekonomik büyüme ve hizmet sunumu için ulusal vizyonlara yerleştirilmiştir.
- Her hükümet, yapay zeka inovasyonuna ve akıllı altyapıya kamu fonu ayırıyor.

Farklılıklar:

- BAE'nin stratejisi daha birleşik ve ileriye dönük; Türkiye'ninki daha parçalı ve reaktif.
- BAE, yapay zekayı gerçek zamanlı hizmet sunumu için kullanıyor; Türkiye'de yapay zeka öncelikli olarak idari modernizasyonda kullanılıyor.

Tema 2: Etik Yapay Zeka ve Veri Yönetimi

Her iki durumda da algoritmik önyargı, şeffaflık ve gizlilik gibi etik kaygılar merkeziydi.

- BAE'de etik yapay zeka yönetimi, sorumlu inovasyonun daha geniş vizyonu içinde yer almaktadır. Düzenleyici deneme ortamlarını ve küresel yapay zeka etiği kuruluşlarıyla ortaklıkları içerir. Ancak merkezi kontrol, vatandaş acenteliği ve veri hakları hakkında soruları gündeme getirir.
- Türkiye'de etik yönetim daha prosedürel, genellikle reaktif ve kurumlar arasında parçalanmıştır. Ülke, veri gizliliği endişeleri, düzenleyici belirsizlik ve farkındalık eksikliği nedeniyle yapay zekaya karşı daha fazla kurumsal dirençle karşı karşıyadır.

Paylaşılan Zorluklar:

- Yapay zeka süreçleri hakkında kamuoyunun anlayışının olmaması.
- Tüm idari alanlarda yapay zekaya uygulanabilir standart etik çerçevelerin olmaması.
- Karar almada kullanılan kara kutu algoritmalarında şeffaflığın sağlanmasında zorluk.

Tema 3: Kamu Sektörünün Benimsenmesi ve İş Gücü Dönüşümü

Yapay zekanın benimsenmesi kamu sektörü rollerini ve sorumluluklarını yeniden şekillendirmeye başladı:

- BAE'de yapay zeka, ön saflardaki hizmetlere entegre edildi: örneğin vize sorgulamaları için sohbet robotları, otomatik polis raporlaması ve yapay zeka sağlık teşhisleri. Bu, hizmet

sunumunda gözle görülür iyileştirmelere yol açtı ancak bazı alanlarda işgücünün küçülmesine de neden oldu.

- Türkiye'de yapay zeka, belge dijitalleştirme, politika tahmini ve idari analiz gibi dahili süreçleri iyileştirmek için kullanılıyor. Ancak benimseme kurumlar arasında eşitsiz kalmaya devam ediyor ve işçi sendikaları ile kamu hizmeti çalışanlarından daha fazla direnç var.

Ortak Fırsatlar:

- Beceri geliştirme ve dijital okuryazarlık programları için potansiyel.
- Otomasyon yoluyla bürokratik verimsizlikleri azaltma.
- Tepkiselliği artırma ve karar alma sürecinde insan hatasını azaltma.

Ortak Riskler:

- Net yeniden beceri kazandırma yolları olmadan iş kaybı korkusu.
- Kurumsal atalet ve yapay zeka uygulamasını sınırlayan eski BT sistemleri.
- Kurumlar arası veri birlikte çalışabilirliğinin zayıf olması.

Tema 4: Vatandaş Algısı ve Kamu Güveni

Vatandaşlar ve yetkililer arasındaki AI algıları benimseme başarısını etkiler:

- BAE vatandaşları, teknolojik liderlik ve ulusal gurur hakkındaki devlet öncülüğündeki anlatılarla bağlantılı olarak AI sistemlerine daha fazla güven duyma eğilimindedir. Ayrıca, AI'nın yaşam kalitesini iyileştirme potansiyeline dair yaygın bir inanç vardır.
- Türkiye halkı daha şüphecidir ve genellikle AI'yı gözetim, iş kaybı veya hükümetin aşırı müdahalesiyle ilişkilendirir. Güven, özellikle politik olarak hassas alanlarda (örneğin, kolluk kuvvetleri, refah) düşüktür.

Güveni Etkileyen Faktörler:

- AI süreçlerinin ve sonuçlarının şeffaflığı.
- AI politika yapımında vatandaş katılımı.
- Hükümet dijital platformlarıyla ilgili tarihi deneyimler.

Tema 5: Yönetim Kapasitesi ve Yasal Altyapı

AI için yasal ve kurumsal hazırlık değişir:

- BAE, kamu-özel sektör ortaklıklarını, sınır ötesi veri akışlarını ve AI sertifikasyon standartlarını kolaylaştırmak için düzenlemeler yürürlüğe koymuştur. Akıllı şehir düzenlemeleri, kentsel planlama, trafik yönetimi ve kamu hizmetleri gibi alanlarda entegre AI dağıtımını garanti altına alır.
- Türkiye, AI dağıtımını veri koruma yasaları ve kurumsal çerçevelerle uyumlu hale getirmede zorluklarla karşı karşıyadır. Düzenleyici kurumlar genellikle AI'ya özgü yetkilerden yoksundur ve mevcut dijital yasalar tutarsız bir şekilde uygulanmaktadır.

Karşılaştırmalı İlgörü:

- BAE'nin yasal çerçevesi, kamuoyundaki tartışmaları muhtemelen atlayarak, ancak yukarıdan aşağıya doğru etkinleştiricidir.
- Türkiye'nin yasal ortamı koruyucudur ancak parçalanmıştır ve kurumsal belirsizlik yaratmaktadır.

Politika Önerileri

1. Etik Denetim Mekanizmalarını Güçlendirin: Adaleti, hesap verebilirliği ve şeffaflığı izlemek için sektörler arası temsiliyete sahip ulusal AI etik konseyleri kurun.
2. İş Gücü Dayanıklılığına Yatırım Yapın: Kamu görevlilerini AI entegrasyonuna hazırlamak için yapılandırılmış ulusal yeniden beceri kazandırma programları oluşturun ve savunmasız meslekleri hedefleyin.
3. Kurumlar Arası İşbirliğini Teşvik Edin: Silolanmış AI dağıtımlarından kaçınmak için bakanlıklar arası AI stratejilerini ve entegre veri tabanlarını teşvik edin.
4. Vatandaş Okuryazarlığını ve Katılımını Artırın: Şeffaflığı ve katılımı artırmak için kamuoyu farkındalık kampanyaları, katılımcı AI tasarım laboratuvarları ve geri bildirim platformları başlatın.

5. Yasal Çerçevesi Modernize Edin: Veri yönetimi yasalarını, tedarik politikalarını ve hesap verebilirlik düzenlemelerini AI'ya özgü zorlukları yansıtacak şekilde güncelleyin.

6. Uyarlanabilir Yönetim Modelleri Oluşturun: Tam uygulamadan önce kontrollü ortamlarda AI çözümlerini denemek için düzenleyici deneme alanları geliştirin

Sonuç

Bu tez, yapay zeka gibi yeni ortaya çıkan teknolojilerin kamu yönetimini nasıl yeniden şekillendirdiğine dair akademik ve pratik anlayışa katkıda bulunmaktadır. Türkiye ve BAE'nin karşılaştırmalı analizi, her iki ülkenin de yapay zeka entegrasyonunu ulusal bir öncelik olarak takip etmesine rağmen, kurumsal kapasitelerinin, siyasi kültürlerinin ve toplumsal algılarının önemli ölçüde farklı uygulama sonuçları ürettiğini ortaya koymaktadır.

Türkiye'nin merkezsizleştirilmiş yaklaşımı demokratik denetim ve vatandaş katılımı için alan sunar ancak koordinasyon boşlukları ve kurumsal tereddütlerden muzdariptir. BAE'nin merkezileştirilmiş modeli hızlı dönüşüme izin verir ancak yetersiz hesap verebilirlik ve şeffaflık riski taşır.

Çalışma, kamu yönetiminde sorumlu yapay zeka yönetiminin inovasyon ve etik, verimlilik ve eşitlik ile otomasyon ve insan ajansı arasında hassas bir denge gerektirdiğini vurgulamaktadır. Her iki ülke de dijitalleşmeye devam ederken, bu araştırma, demokratik değerleri ve kamu güvenini korurken yapay zekayı kullanmaya çalışan diğer hükümetler için bir yol haritası sunmaktadır.

ABSTRACT

The Potential Impacts of Using Artificial Intelligence on Public Administration Comparative Study: Türkiye & UAE (2018-2024)

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June 2025

The rapid advancement of Artificial Intelligence (AI) has significantly influenced public administration, presenting both transformative opportunities and profound challenges. This dissertation investigates the potential impacts of AI on public administration through a comparative study of Türkiye and the United Arab Emirates (UAE) from 2018 to 2024. As governments increasingly adopt AI-driven technologies to improve efficiency, streamline decision-making, and enhance service delivery, it is crucial to assess the effectiveness, ethical implications, and societal consequences of these implementations. While AI has the potential to revolutionize governance by automating routine administrative tasks, enabling data-driven policy decisions, and fostering transparency, its integration raises critical concerns regarding privacy, accountability, fairness, and workforce implications.

This study employs a qualitative comparative approach, utilizing the Technology Acceptance Model (TAM) as a theoretical framework to analyze AI adoption in public administration. Through an in-depth examination of policy documents, AI strategies, and stakeholder perceptions, supplemented by semi-structured interviews with government officials, technology experts, and policymakers, this research identifies key factors shaping AI acceptance and implementation in both countries. The study explores the similarities and differences in AI adoption, focusing on regulatory frameworks, technological readiness, ethical governance, and societal attitudes toward AI-driven public services.

Findings suggest that while both Türkiye and the UAE have pursued AI integration as a means to modernize governance, their approaches are shaped by distinct political, economic, and cultural contexts. The UAE's centralized and visionary approach has positioned AI as a cornerstone of national development, supported by robust investment and strategic planning. In contrast, Türkiye has demonstrated a more decentralized and evolving adoption pattern, influenced by its unique administrative structure and regulatory landscape. The study also highlights key challenges such as ethical dilemmas in AI decision-making, concerns over bias and discrimination in automated systems, and the potential displacement of human workers.

By providing a comparative analysis of AI's role in public administration, this dissertation contributes to the growing body of knowledge on digital governance and technology-driven policymaking. The research offers practical recommendations for policymakers on balancing innovation with ethical considerations, ensuring that AI adoption enhances public sector efficiency while upholding principles of transparency, inclusivity, and accountability. The findings aim to inform future AI governance strategies, contributing to sustainable and responsible AI implementation in public administration.

Keywords: Artificial Intelligence, Public Administration, Türkiye, UAE, Digital Governance, Technology Acceptance Model, Ethical AI, Comparative Analysis, Policy Innovation

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INTRODUCTION

Artificial Intelligence (AI) is increasingly being integrated into public administration to enhance decision-making, optimize service delivery, and improve bureaucratic efficiency. While extensive research has examined the technological capabilities, ethical considerations, and regulatory challenges of AI in governance (Wirtz et al., 2019; Zuiderwijk et al., 2021), a significant gap remains in understanding how AI adoption is specifically formulated, implemented, and evaluated within public sector governance structures. This gap is particularly evident in the contexts of Türkiye and the United Arab Emirates (UAE), two countries with distinct political and administrative models that have both prioritized AI in public sector reform.

Although global research on AI-driven governance has explored policy frameworks, digital transformation strategies, and citizen engagement (Vinuesa et al., 2020), limited comparative studies have assessed how governance structures, institutional policies, and administrative constraints influence AI adoption in different political systems. Existing literature tends to focus either on developed nations with established AI regulatory frameworks or on generalized discussions about AI's potential in governance, without offering detailed empirical insights into the challenges and strategies employed by emerging economies and technologically ambitious states such as Türkiye and the UAE.

Additionally, while AI governance models emphasize transparency, ethical decision-making, and public trust (Fukuyama & Berditchevskaia, 2021), there is a lack of research assessing how government officials in diverse governance models perceive AI adoption and its implications for administrative structures. The UAE has implemented a top-down, centralized approach to AI governance, prioritizing national AI strategies, large-scale investment, and regulatory enforcement, whereas Türkiye has adopted a more adaptive, decentralized model, shaped by both European regulatory trends and national digital transformation initiatives. However, there is no comprehensive comparative study that systematically examines the challenges, strategic priorities, and policy outcomes of AI adoption in these two governance environments.

Furthermore, while existing research has addressed technological advancements and ethical implications of AI in public services, practical challenges such as bureaucratic resistance, workforce transformation, and regulatory inconsistencies have been largely overlooked (Sun & Medaglia, 2019). Understanding these factors is critical to ensuring effective AI implementation, minimizing bias in algorithmic decision-making, and aligning AI-driven governance with democratic accountability and institutional stability.

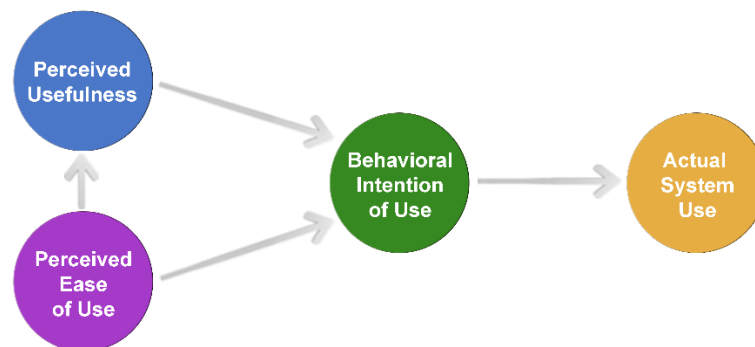
This study seeks to bridge these research gaps by providing an empirical comparative analysis of AI adoption in public administration in Türkiye and the UAE. By examining how policy frameworks, governance structures, and institutional challenges influence AI-driven transformation, this research contributes to the broader discourse on AI's role in public sector reform and governance modernization.

In recent times, particularly in the last two decades, the world has experienced numerous transformations in diverse facets of existence. Governments have acknowledged that since the Internet's inception, information and communication technology (ICT) and the Artificial Intelligence (AI) have enhanced peoples' quality of life. Governments therefore saw ICT and AI as an opportunity to better citizens' needs and quality of life. This trend also affected the public sector and governments, which attempted to create various programs to offer ICT-based services to citizens while also benefiting from technology advancements. There are serious concerns regarding the ethical and social implications of artificial intelligence (AI) systems as they get more and more sophisticated. Political philosophers can contribute significantly by addressing normative issues, as political actions ultimately determine this impact.

The format of the dissertation is as follows. The first section offers a literature perspective on AI concepts taking into consideration the transforming towards digitalized governments then provides a description of the theoretical model that is applied to the study. Next, similarities and differences between Türkiye and United Arab Emirates (UAE) in the context of the impacts of using AI in public administration will be analyzed based on Salamon's (2002) framework for evaluating tools of governance including 5 criteria: effectiveness, efficiency, equity, manageability and political feasibility. Given the complex and multifaceted nature of the topic of Artificial Intelligence (AI) adoption in public

administration, a research theory that could be effectively implemented is the Technology Acceptance Model (TAM). The TAM is a widely recognized theoretical framework used to understand and predict user acceptance and adoption of technology. The research methodology and a description of the findings come next the findings as qualitative research method will be followed to implement elite structured interviews. In summary, the dissertation ends with an analysis of the empirical findings, a discussion of the implications for future research, and recommendations for further study. TAM, an Explain and Predict Theory, explains technology acceptance based on user perceptions of its ease of use, positive impact, and benefits. This decision predicts behavioral intention to use the technology, a phase before adoption and success measurement (Marikyan and Papagiannidis, 2023).

Figure 1. Technology Acceptance Model



Source: Davis, F. D. (1989). "Perceived usefulness, perceived ease of use, and user acceptance of information technology." *MIS Quarterly*, 13(3), 319-340.

The adoption of Artificial Intelligence (AI) in public administration holds significant importance in enhancing government's efficiency, service delivery, and decision-making processes. Academic literature emphasizes several key reasons why AI adoption is crucial for modernizing and improving public administration as follows:

Efficiency and Cost-Effectiveness: AI technologies have the potential to streamline administrative processes, automate routine tasks, and optimize resource allocation. By leveraging AI algorithms and machine learning, governments can improve operational efficiency and cut costs while maintaining service quality. Güven (2024) emphasizes the dual

nature of AI, presenting both opportunities and challenges. Utilizing a descriptive analysis method, the research reveals that AI can optimize decision-making, reduce bureaucratic inefficiencies, and improve public service quality.

Data-Driven Decision-Making: AI enables governments to analyze vast amounts of data quickly and accurately, leading to more informed and evidence-based decision-making. By harnessing “AI-powered analytics, public administrators can identify trends, patterns, and insights that may not be readily apparent through traditional methods, facilitating better policy formulation and implementation” (Interviewee, Fatih, Türkiye).

Enhanced Service Delivery: AI technologies can revolutionize citizen services by providing personalized, efficient, and responsive solutions. Chatbots, virtual assistants, and AI-driven platforms can improve citizen engagement, accessibility, and satisfaction by offering round-the-clock support, tailored information, and streamlined processes.

Predictive Capabilities: “AI systems can forecast trends, anticipate needs, and identify potential risks, enabling governments to proactively address challenges and opportunities” (Oya, Türkiye). By leveraging predictive analytics and AI-driven forecasting, public administrators can better prepare for emergencies, allocate resources effectively, and optimize service delivery.

Transparency and Accountability: AI adoption in public administration can enhance transparency, accountability, and governance practices. By automating processes, reducing human bias, and increasing data accuracy, AI technologies can promote fairness, integrity, and trust in government operations, fostering public confidence and participation.

Innovation and Adaptability: AI fosters innovation and adaptability in public administration by enabling agile responses to changing circumstances and emerging challenges. By embracing AI technologies, governments can stay ahead of technological advancements, drive digital transformation, and meet the evolving needs of citizens in a rapidly changing world.

Capacity Building and Skill Development: AI adoption in public administration necessitates capacity building, skill development, and training programs for government officials. By investing in AI education and upskilling initiatives, governments can equip their

workforce with the necessary knowledge and expertise to effectively utilize AI technologies and drive innovation in public services.

The academic literature underscores the transformative potential of AI adoption in public administration, highlighting its role in enhancing efficiency, decision-making, service delivery, transparency, innovation, and capacity building. By embracing AI technologies, governments can unlock new opportunities, address complex challenges, and create more responsive and citizen-centric public services.

The following research methodology would be considered for analyzing and studying the research gaps identified:

1. Comparative analysis between the AI strategies and implementations in the UAE and Türkiye. To compare the approaches, challenges, successes, and impacts of AI adoption in these two countries to identify similarities, differences, and best practices.
2. Qualitative research methods such as elite interviews to gather insights from key stakeholders, decision-makers, and experts in the field of AI and public administration. Qualitative data can provide in-depth perspectives on the practical implications and challenges of AI adoption.

In the context of AI adoption in public administration in the UAE and Türkiye, the TAM help analyze the factors influencing the acceptance and utilization of AI technologies by government officials, policymakers, and citizens. This model considers key variables such as perceived usefulness, perceived ease of use, attitude towards technology, and behavioral intention, which are crucial in determining the challenges of technology adoption initiatives.

By applying the TAM, the research can assess the attitudes, perceptions, and intentions of stakeholders towards AI technologies. This can provide valuable insights into the factors that facilitate or hinder the adoption of AI in government settings, helping policymakers and decision-makers develop strategies to promote successful implementation.

Furthermore, the TAM can help identify potential barriers to AI adoption, such as concerns about data privacy, ethical implications, and workforce displacement. By understanding these factors, policymakers can address challenges proactively and design interventions to support the effective integration of AI technologies in public administration.

Ethical considerations and social impacts are also crucial aspects to consider in the adoption of AI in public administration. As discussed by Erman and Furendal (2022), governance must address uncertainties in AI algorithms and decisions to ensure ethical AI governance. Additionally, the study by Diab (2022) emphasizes the importance of understanding the impact of technological advancements on customer behavior and the global economy, underscoring the need for responsible AI adoption.

Overall, the Technology Acceptance Model offers a robust theoretical framework for studying AI adoption in public administration, providing a structured approach to analyzing the factors influencing technology acceptance and utilization. By applying the TAM to research on AI adoption in the UAE and Türkiye, the research can gain valuable insights into the dynamics of technology adoption in government context and inform evidence-based policy decisions.

Research Objectives

In response to the identified research gaps, this study aims to:

1. Analyze how AI policies are formulated, implemented, and evaluated in Türkiye and the UAE, addressing the gap in comparative AI governance research.
2. Examine the institutional and bureaucratic challenges affecting AI adoption, filling the lack of empirical studies on public sector resistance, workforce adaptation, and regulatory alignment.
3. Explore how government officials perceive AI governance, responding to the gap in research on policy-maker trust, strategic priorities, and AI's role in decision-making.
4. Investigate the ethical and transparency concerns related to AI in public administration, building on prior discussions of AI bias but extending them to practical governance challenges in emerging economies.
5. Assess the long-term implications of AI adoption on public sector employment, decision-making autonomy, and administrative efficiency, contributing to the broader discourse on AI's transformative role in governance structures.

Problem Statement

The integration of Artificial Intelligence (AI) in public administration presents a transformative shift in governance, promising enhanced efficiency, data-driven decision-making, and improved service delivery. However, the extent to which AI adoption fulfills these promises remains underexplored, particularly in the contexts of Türkiye and the United Arab Emirates (UAE). While both countries have made significant strides in AI-driven governance, the formulation, implementation, and evaluation of AI policies remain inconsistent and subject to various institutional, cultural, and regulatory challenges.

Existing studies on AI adoption in public administration primarily focus on theoretical models of governance (Wirtz et al., 2019; Zuiderwijk et al., 2021), with limited empirical comparisons between emerging economies. While some research emphasizes AI's role in improving public sector efficiency (Vinuesa et al., 2020), others warn of potential governance failures due to ethical risks and lack of regulatory oversight (Fukuyama & Berditschevskaia, 2021). However, there remains a gap in understanding how AI adoption progresses across different governance models, particularly in countries with centralized (UAE) versus decentralized (Türkiye) structures. Furthermore, existing research on AI in public administration predominantly focuses on its technological capabilities and efficiency benefits, with limited attention given to the policy frameworks and governance structures that shape its successful deployment. There remains a critical gap in understanding how AI strategies are formulated in public administration, the specific barriers to their implementation, and the mechanisms used to evaluate their impact on governance. In Türkiye, for instance, AI adoption has been influenced by national digital transformation efforts under the "National AI Strategy (2021–2025)," yet challenges persist regarding regulatory adaptation, bureaucratic resistance, and ethical governance. The UAE, on the other hand, has positioned AI as a strategic national priority with initiatives such as the "UAE AI Strategy 2031," but questions remain regarding long-term sustainability, workforce displacement, and public trust in AI-driven governance.

Moreover, AI adoption in Türkiye and the UAE has evolved differently due to distinct political structures and governance models. While Türkiye's AI policies have emerged in

response to increasing digitalization efforts and economic imperatives, the UAE has taken a proactive, top-down approach, embedding AI into its long-term vision for smart governance. Despite these advancements, a comparative analysis of AI governance in these countries is lacking, particularly in how AI is shaping public administration structures, citizen engagement, and ethical policymaking.

This study aims to bridge these research gaps by examining how AI policies are designed, the factors influencing their implementation, and the metrics used to evaluate their effectiveness in Türkiye and the UAE. By providing a comparative perspective, the research will contribute to a deeper understanding of AI governance in diverse political and administrative settings, offering insights for policymakers and practitioners striving to integrate AI into public administration in a responsible and effective manner.

Purpose Statement

The purpose of this study is to explore the potential impacts of Artificial Intelligence (AI) adoption in public administration in Türkiye and the United Arab Emirates (UAE), with a specific focus on AI applications in public service delivery, policy formation, and decision-making processes. While AI is increasingly being integrated into various aspects of governance, its implementation in public administration presents unique challenges, including ethical dilemmas, regulatory constraints, and concerns over workforce transformation. This research seeks to provide a comparative analysis of AI-driven governance models in Türkiye and the UAE to identify commonalities, challenges, and best practices in AI adoption.

Using the Technology Acceptance Model (TAM) as a theoretical framework, this study will assess how AI is perceived and utilized by government officials, policymakers, and citizens. Specifically, it will investigate:

- The extent to which AI enhances public service delivery through automation, predictive analytics, and data-driven decision-making.
- The role of AI in policy formation, particularly in shaping evidence-based governance and regulatory frameworks.

- The impact of AI on decision-making processes, focusing on efficiency, transparency, and accountability within public institutions.
- Ethical and societal concerns related to AI-driven public administration, including algorithmic bias, data privacy, and the digital divide.

To achieve these objectives, the study will employ a qualitative research approach, utilizing semi-structured interviews with government officials, technology experts, and policymakers in Türkiye and the UAE. Additionally, policy documents, strategy reports, and AI governance frameworks will be analyzed to provide a comprehensive understanding of AI's role in public administration. This methodological approach will enable an in-depth exploration of AI adoption in governance and offer practical recommendations for policymakers seeking to implement AI technologies effectively and ethically in public administration.

Research Questions

This study aims to provide a comprehensive analysis of AI adoption in public administration in Türkiye and the UAE by refining its research focus on key strategic, operational, and ethical dimensions through answering the following research questions.

1. AI Policy Formulation, Implementation, and Evaluation

- How do Türkiye and the UAE develop and implement AI policies in public administration, and what key strategies shape their national AI frameworks?
- What mechanisms are in place in both countries to evaluate the success and impact of AI policies in public governance?

2. Citizen Trust, Perception, and Engagement with AI-driven Public Services

- How do citizens and government officials in Türkiye and the UAE perceive AI-driven public services, and what factors influence public trust in AI governance?
- To what extent do AI-driven services improve citizen engagement, accessibility, and satisfaction in public administration?

3. AI's Impact on Decision-Making and Administrative Efficiency

- How has AI influenced government decision-making processes, particularly in policy analysis, predictive governance, and resource allocation?
- What are the major challenges faced by public administrators in integrating AI into decision-making processes, and how do these challenges differ between Türkiye and the UAE?

4. Ethical Considerations and Governance of AI in Public Administration

- What ethical concerns—such as algorithmic bias, privacy risks, and transparency—have emerged in AI adoption in governance, and how are they addressed in Türkiye and the UAE?
- How do AI governance frameworks in both countries balance innovation with ethical AI implementation?

5. Long-Term Impact of AI on Public Sector Employment and Future AI Readiness

- What are the long-term implications of AI adoption on employment, workforce skills, and administrative structures in public administration in Türkiye and the UAE?
- How do both countries plan to sustain and expand AI-driven governance while ensuring workforce adaptability to AI-driven transformations?

Importance of the Study

The significance of this study lies in its examination of AI-driven transformations in public administration through a comparative analysis of Türkiye and the United Arab Emirates (UAE). While numerous studies explore AI adoption in developed nations, there remains a critical gap in understanding how emerging economies and technologically ambitious nations in the Middle East integrate AI into governance. Türkiye and the UAE were selected for this study not only due to their distinct governance models but also because they stand out as regional leaders in AI adoption, making them ideal case studies for analyzing AI-driven public sector transformation.

The UAE has positioned itself as a pioneer in AI governance, being the first country in the world to appoint a Minister of State for Artificial Intelligence and launch an ambitious AI Strategy 2031, aiming to integrate AI across all government functions. The country has invested heavily in AI-driven smart governance, predictive analytics, and digital transformation initiatives, setting a benchmark for AI adoption in public administration. Meanwhile, Türkiye has developed a comprehensive National AI Strategy (2021–2025), aiming to boost digital governance, enhance public sector efficiency, and align AI policies with EU and OECD standards. Unlike other countries in the region, which primarily focus on AI adoption in the private sector, Türkiye and the UAE prioritize AI's role in public administration, making them particularly relevant for this study.

Beyond theoretical contributions, this research holds practical significance for policymakers and AI governance experts. As governments worldwide grapple with the challenges of AI integration, understanding how Türkiye and the UAE navigate policy design, implementation, and regulatory oversight can provide valuable lessons for other nations. The study's findings will offer policy recommendations on AI governance, ethical AI adoption, and regulatory frameworks tailored to public administration. These insights will be crucial in helping policymakers:

- Develop AI regulatory frameworks that ensure transparency, accountability, and fairness in AI-driven decision-making.
- Address ethical challenges such as algorithmic bias, data privacy, and public trust in AI-based services.
- Enhance AI-driven public service delivery by identifying best practices in automation, citizen engagement, and digital transformation.
- Balance AI innovation with workforce transformation, ensuring that AI adoption does not lead to excessive job displacement but instead fosters digital upskilling.

By bridging the gap between AI innovation and responsible governance, this study will serve as a strategic guide for governments seeking to implement AI technologies while maintaining democratic values, inclusivity, and accountability in public administration.

Definitions of Terms

To enhance clarity and depth, this section includes key technical AI concepts while linking them directly to their applications in public administration.

1. Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to a branch of computer science that enables machines to perform tasks that typically require human intelligence, such as learning, reasoning, and decision-making. AI systems rely on data-driven algorithms and computational models to process information, recognize patterns, and make autonomous decisions.

2. Machine Learning (ML)

Machine Learning (ML) is a subset of AI that enables computers to learn from data without being explicitly programmed. ML models improve over time by analyzing patterns and making predictions based on historical information.

3. Automation

Automation refers to the use of AI and robotic processes to perform routine administrative tasks without human intervention. This includes workflow automation, chatbots, and robotic process automation (RPA).

4. Algorithmic Decision-Making

Algorithmic decision-making involves the use of AI-driven computational models to analyze data and make policy or administrative decisions. These decisions are based on predefined rules, statistical models, or machine learning outputs.

5. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theoretical framework that explains how users accept and adopt new technologies based on two key perceptions:

- Perceived Usefulness (How much the technology improves performance).
- Perceived Ease of Use (How easy it is to operate).

6. Ethical AI Governance

Ethical AI Governance refers to policies and frameworks that ensure AI is used responsibly, transparently, and fairly in decision-making. It focuses on bias prevention, data privacy, and accountability in AI applications.

Theoretical Framework

The Technology Acceptance Model (TAM) serves as a foundational theoretical framework for analyzing the adoption and utilization of Artificial Intelligence (AI) in public administration. TAM posits that an individual's decision to adopt new technology is primarily influenced by perceived usefulness and perceived ease of use (Davis, 1989). While these factors are crucial for understanding AI acceptance among government officials and policymakers, AI adoption in the public sector is influenced by a broader set of institutional, ethical, and governance-related considerations. To strengthen the analytical depth of this study, the theoretical framework is expanded to incorporate additional dimensions that shape AI implementation in public administration, particularly in the contexts of Türkiye and the United Arab Emirates (UAE).

Trust in AI Governance

One of the primary challenges in AI adoption in public administration is the issue of trust. In contrast to private-sector technology adoption, where market forces primarily shape acceptance, AI adoption in governance requires public and institutional trust in AI-driven decision-making. Trust in AI governance is influenced by factors such as algorithmic transparency, explainability, bias mitigation, and public accountability (Langer et al., 2022). Given that government decisions significantly impact citizens, ensuring that AI systems are fair, ethical, and accountable is fundamental to widespread adoption.

To integrate this aspect into the theoretical framework, Trust in Automation Frameworks (Hoff & Bashir, 2015) can be incorporated to assess how government officials and citizens

perceive AI reliability in public services. The framework provides a structured approach to evaluating confidence in AI-driven decision-making, particularly in areas where human oversight is limited. This is particularly relevant in the centralized AI governance model of the UAE, where decision-making is highly automated, compared to Türkiye's more decentralized governance structure, where AI adoption is subject to varying institutional constraints.

Ethical and Regulatory Considerations

The application of AI in public administration introduces a range of ethical dilemmas and regulatory challenges, including concerns about data privacy, algorithmic bias, and accountability in automated decision-making. AI adoption in governance is subject to national regulatory frameworks that define the boundaries of AI applications, ethical compliance, and risk mitigation strategies (Floridi et al., 2018).

To capture the impact of legal and ethical constraints on AI adoption, Ethical AI Governance Frameworks (Jobin, Ienca, & Vayena, 2019) and Institutional Theory (Scott, 2001) can be integrated into the theoretical framework. These perspectives offer insights into how governments establish regulatory policies, ethical guidelines, and institutional safeguards to ensure AI is used responsibly. Given that the UAE has implemented a national AI strategy with a structured regulatory approach, while Türkiye's AI regulations are evolving within a broader digital governance framework, this theoretical expansion enables a more nuanced analysis of AI policy development in different governance settings.

Workforce and Organizational Change

AI adoption in public administration is not limited to technological factors; it also influences workforce dynamics, job restructuring, and digital skill requirements. AI-driven automation is reshaping public sector employment, necessitating upskilling and reskilling initiatives for government officials (Brynjolfsson & McAfee, 2014). Resistance to AI adoption often stems from concerns about job displacement, loss of decision-making authority, and the perceived complexity of AI systems (Brougham & Haar, 2018).

To incorporate the human and organizational aspects of AI adoption, the study integrates organizational change theories (Van de Ven & Poole, 1995) and innovation diffusion models (Rogers, 2003). These frameworks provide a structured approach to analyzing how public sector employees adapt to AI technologies, the factors that facilitate or hinder AI adoption, and the organizational readiness of government institutions. Given that Türkiye's decentralized administrative model may lead to varying degrees of AI adoption across different government agencies, while the UAE's centralized AI governance facilitates uniform adoption, these perspectives provide deeper insights into the institutionalization of AI in public administration.

Political and Cultural Influences on AI Adoption

The adoption of AI in governance is significantly shaped by political structures, administrative hierarchies, and national strategic priorities. In centralized governance models, such as the UAE, AI adoption is largely driven by top-down national strategies that prioritize digital transformation as part of long-term development plans. In contrast, Türkiye's AI adoption is influenced by regulatory and economic factors, leading to a more gradual and adaptive approach to AI integration.

To account for these contextual differences, the study incorporates Salamon's Tools of Governance Framework (Salamon, 2002), which analyzes how different governance models influence AI implementation. This framework provides a comparative lens for evaluating how national policies, leadership directives, and administrative structures affect AI governance and public sector innovation.

Long-Term AI Adoption and Institutional Change

While TAM is effective for analyzing the initial adoption of AI technologies, AI implementation in public administration requires long-term sustainability and continuous adaptation. Given that AI technologies evolve rapidly, government institutions must establish long-term strategies for AI integration, policy adaptation, and institutional transformation (Brown & Osborne, 2012).

To address the long-term impact of AI adoption, Rogers' Diffusion of Innovations Theory (Rogers, 2003) and Institutional Change Models (Greenwood & Hinings, 1996) are integrated into the framework. These theories provide a structured approach to analyzing how AI technologies spread within government institutions, overcome bureaucratic resistance, and transition from pilot projects to full-scale implementation. This expansion enables the study to assess how AI adoption evolves over time in Türkiye and the UAE, taking into account regulatory developments, administrative shifts, and policy revisions.

Limitations

The study may face limitations such as:

- Potential biases in qualitative data collected from interviews.
- The generalizability of findings may be limited to the specific contexts of Türkiye and the UAE.
- The rapidly evolving nature of AI technologies may result in findings that become outdated quickly.

Delimitations

The study is delimited to:

- A focus on public administration in Türkiye and the UAE from 2018 to 2023.
- An examination of AI applications in specific sectors such as healthcare, traffic management, and education.
- The perspectives of government officials and selected stakeholders involved in AI implementation.

Assumptions

The study assumes that:

- Participants will provide honest and accurate responses during interviews and surveys.
- The findings from Türkiye and the UAE can offer valuable insights applicable to other contexts.

- AI technologies will continue to evolve and be integrated into public administration in both countries.

Organization of the Study

The dissertation is organized into 4 chapters:

Chapter 1: Literature Review - Reviews existing literature on AI in public administration, and the theoretical framework of digitalization.

Chapter 2: Theoretical Perspectives and Sectoral Applications of AI in Public Administration

Chapter 3: Methodology - Describes the research design, data collection methods, and analysis procedures.

Chapter 4: Findings - Presents the results of the comparative qualitative analyses.

CHAPTER I: FOUNDATIONS OF DIGITALIZATION AND ARTIFICIAL INTELLIGENCE IN PUBLIC ADMINISTRATION

1.1 Introduction

In the contemporary era, public administration systems are undergoing a significant transformation driven by technological innovation. Among these innovations, Artificial Intelligence (AI) stands out as a critical instrument for reshaping how states function, interact with citizens, and deliver services. The intersection of AI and digital government is not only technical but also deeply political and institutional. As governments globally attempt to align their administrative frameworks with the challenges of the 21st century, it becomes imperative to explore how digitalization and AI co-evolve, and how this convergence influences governance models and practices. This chapter builds the theoretical foundation of the study by outlining the concepts of digitalization and digital government, defining and classifying AI, examining the relationship between AI and digital governance, and analyzing the transformative implications of AI for public administration.

Public policy is a major part of modern life. Public policy is a crucial government framework for addressing issues and cutting costs. Automation and Artificial Intelligence (AI) are being used to improve efficiency and simulate policies. However, AI can be dangerous if simulated effects replace actual implementation. Future AI could be used to test policies with minimal cost and best solutions (Interviewee, Oya, Türkiye).

Public policy is created by governments to guide the legal requirements and take on various issues. It has a huge impact on society; it provides a framework of what is to be expected by people within society, and also presents an outline of what the government is still to do for its people. Governments at the minute are attempting to do a few various tasks. One of the main tasks at the moment is the attempt to cut the cost of services and free up resources to aid cost-cutting while not affecting service levels too adversely.

Automation is the replacement of human-operated tasks with technology. This can include anything from simple machinery to highly complex software. The next logical progression

to automation is the implementation of Artificial Intelligence (AI). Due to the increasing complexity and sophistication of modern software technology, AI is becoming a viable option in many areas. AI has the potential to greatly automate and improve the efficiency of already existing processes; in essence, it is best described as software that is capable of learning and reasoning, and then making decisions based on that information.

With public policy ideas largely being a set of instructions and decisions, AI has the potential to simulate and extrapolate existing policy and the future effects of new policy to give decision-makers a better idea of what to expect. This can be done right down to specific areas of policy. Indeed, it can be extremely useful but also extremely dangerous if the simulated policy effects are taken as a replacement for actual implementation. The technological advancements, particularly in AI, have significantly transformed administrative structures and governance, necessitating a thorough understanding of the implications for public administration (Uzun., et, 2022). Public policy is also said to be an intentional course of action or inaction followed by governmental bodies or within its allocated authority, employing some kind of consistent pattern of behavior to get a desired end. This is all completely separate from law, but public policy can cause laws to be created.

Implementation is the process of inputting or applying the policy to action. AI research is playing an increasing role in the development of public policy. By definition, AI is not specifically designed to do one thing forever, but to simulate an intelligent being in certain tasks and decisions. This is highly attractive to decision-makers. If an AI system can provide the best possible decision to a set of instructions, this frees a human from said task to do something else, with the hope of positive effects on employing AI being replacing human jobs with the simulation of said job.

Additionally, this tied in with high automation could see a future where AI is used to test potential policy on certain issues, or how to best change already existing policy on said issue with minimal effective cost and the best solution to said issue. It can go as far as simulated legislation of laws and the best possible results from those laws. Given the complex nature of modern AI tasks, this can be a huge long-term effort, but it could potentially replace actual policy in the far future.

1.2 The Progression of Technology throughout the History

Technology has transformed industries, capacity, services, and commodities. The digital revolution and fourth industrial revolution have impacted labor markets, requiring business leaders to understand their implications. Throughout history, the progress of technology has ignited the transformation of several sectors, resulting in significant effects on both society and the economy. The technological revolution brought about significant changes in several aspects of the industry, such as capacity, services, commodities, and other important factors that contribute to success (Afuah & Utterback, 1997).

Nevertheless, innovation serves as a crucial factor that accelerates the continuous advancements in technology, leading to a significant boost in production and the resolution of industrial challenges (Johnston, 1966). Technological innovation has a substantial impact on Total Factor Productivity (TFP), an important measure for monitoring economic progress (Hulten, Dean, & Harper, 2001). Therefore, Solow (1956) determined that technical change had a substantial impact on long-term economic growth.

Indeed, scientific progress has historically triggered the onset of three significant industrial revolutions that had a dramatic impact on society and the global economy. The First Industrial Revolution, which took place between 1750 and 1850, was spearheaded by Britain. The advent of steam engines and railroads facilitated the process of mechanical manufacturing (Deane, 1979). The Second Industrial Revolution, a significant period, occurred from 1870 to 1914. Electricity had a pivotal role in driving mass production throughout the second industrial revolution (Mokyr, 1998). The Third Industrial Revolution, which emerged in the 1960s, is mostly known as the digital revolution. The statement highlights that it brought about the progress of semiconductors, the Internet, and computer technology (Schwab, 2016). Hergüner (2024) discusses two historical dichotomies that have shaped public administration, politics-administration and fact-value, emphasizing separation of political influence from bureaucratic processes and value-free governance. Additionally, the rapid evolution of information technologies, especially AI, has promoted a potential third dichotomy considering that the primary goal of public administration should be to enhance human happiness or foster continuous human development.

Industrial revolutions and scientific breakthroughs had a profound influence on the formation of the labor market, making it a vital economic factor. According to Autor (2015), automation has had a role in the creation, replacement, and improvement of jobs throughout history. In 2014, Autor observed that the proportion of American laborers employed in the agriculture industry decreased from 41% in 1900 to 2% in 2000. This decline was attributed to the use of automated technology and other technological advancements. Bessen (2015) cites Automated Teller Machines (ATMs) as an example that exemplifies their considerable contributions to the proliferation of bank branches since their introduction in the 1970s. The rise of the financial sector has increased the workload for tellers in the banking business. However, vocations such as bookkeepers, cashiers, and telephone operators were completely replaced by technology (Bresnahan, 1999). Bresnahan, Brynjolfsson, and Hitt (2002) emphasize that workers must constantly update their abilities in response to technological changes in order to remain adaptable in the labor market.

The term "fourth industrial revolution" refers to the current era of rapid technological advancements and digital transformation in several industries. Klaus Schwab, the founder of the globe Economic Forum, emphasized in his book "The Fourth Industrial Revolution" (2016) the profound influence that technological progress would have on the globe in the coming years. Klaus asserts that the fourth industrial revolution emerged as a result of the third industrial revolution, which started in the 1960s and is mostly associated with the computer revolution. The distinguishing factor of the fourth industrial revolution is the rapid disruptions to the nature of employment caused by technological advancement. Therefore, technology improvements will radically transform human behavior and interpersonal interactions. The organizational structures of both the public and commercial sectors are undergoing changes due to the implementation of advanced technologies.

In addition, his book suggested that the technological revolution would have a more significant influence on governments. Klaus recognized numerous technology domains as drivers of the fourth industrial revolution, as outlined by Schwab (2016). These fields include:

- AI (Artificial Intelligence)
- The field of robotics
- The Internet of Things (IoT)
- Additive manufacturing using three-dimensional printing technology.
- Nanotechnology

Segars (2018) conducts a study on the technologies that are causing a significant transformation in society. The pervasive impact of the current technological revolution on society renders it ubiquitous. According to Segars (2018), business leaders need to possess a comprehensive comprehension of both the possibilities and the repercussions of the technological advancements driving the industrial revolution. Furthermore, the study finds four key domains - healthcare, education, the environment, and commerce - that are consistently influenced by technological progress. The researcher outlines many disruptive technologies, such as artificial intelligence, robots, and 3D printing that are profoundly transforming enterprises. He asserts that these technologies possess greater sophistication compared to others due to their intelligence, intuitive interface, and widespread presence.

Renjen's 2018 research explores the preparedness of public and commercial sectors for Industry 4.0, the fourth industrial revolution, focusing on the integration of advanced technology into business environments. The research primarily concentrated on four crucial domains of Industry 4.0: people and workforce, technology, strategy, and societal influence (Laurent et al., 2015). The poll also revealed that companies are only just starting to prepare for this upcoming industrial revolution. According to Laurent et al. (2015), Deloitte researchers emphasize the importance for firm executives to start getting ready for the industrial revolution and embracing the disruptive changes it would cause.

1.3 Definition of Digitalization and Digital Government

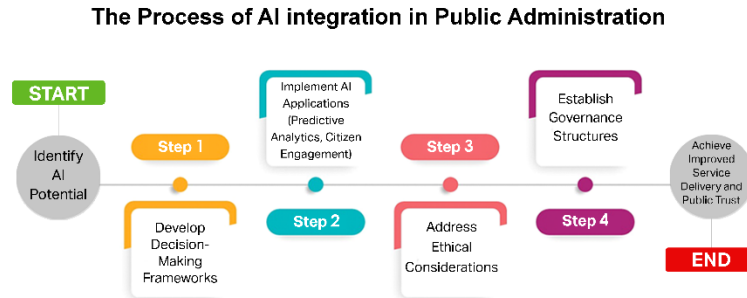
The wider trend of digital governance, sometimes known as "GovTech" or "e-Government," is the foundation for the integration of artificial intelligence into the provision of public services (Margetts & Dorobantu, 2019). The current wave of AI adoption is essentially different from earlier applications of technology in government,

which concentrated on digitizing bureaucratic procedures. This is because AI involves autonomous systems that are capable of learning, adapting, and acting on their own. This change has been referred to by academics like Zouridis et al. (2020) as the "algorithmic state," in which code, not bureaucrats, mediates access to services. The use of AI in public services is divided into three categories by Wirtz et al. (2019): strategic policy planning (e.g., predictive analytics), citizen interface (e.g., virtual assistants), and operational efficiency (e.g., smart resource allocation). This typology has served as the basis for assessing government

1.3.1 The Concept of Digital Government

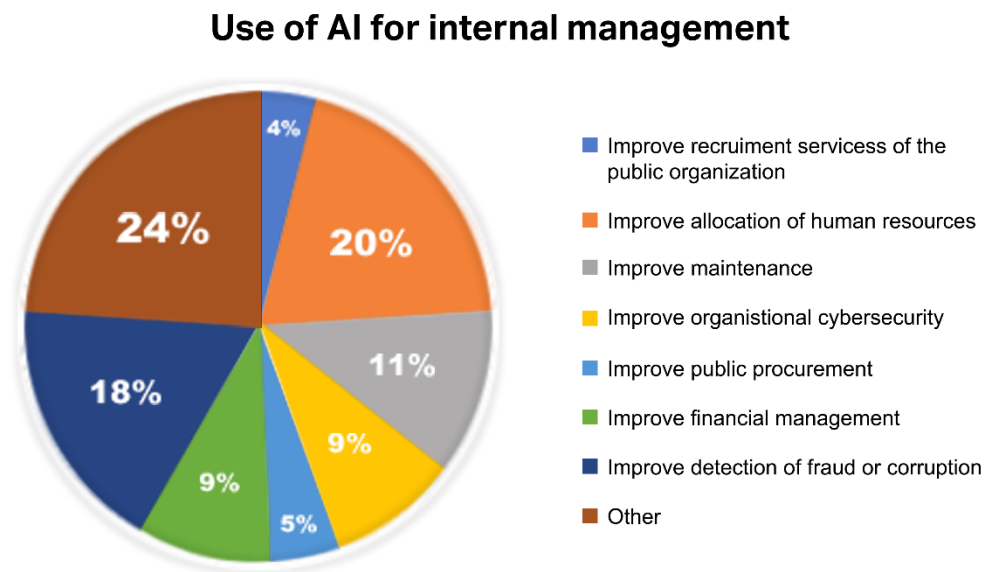
In an era characterized by rapid technological advancements and increasing demands for transparency and efficiency in governance, the concept of digital government has emerged as a critical framework for modern public administration. Digital government refers to the integration of digital technologies into the processes and functions of government, fundamentally transforming how public services are delivered and how citizens engage with their governments. This transformation is particularly significant in the context of the United Arab Emirates (UAE) and Türkiye, where both nations are actively pursuing digital government initiatives to enhance governance, improve service delivery, and foster greater citizen participation. By examining the definitions and significance of digital government, as well as the integration of Artificial Intelligence (AI) and other technologies, we can better understand the implications for public administration in these two diverse contexts.

Figure 2. The Process of AI Integration in Public Administration



The different applications of AI for internal management in public enterprises are depicted by Van Noordt and Misuraca (2022). Generally, fraud detection and the distribution of human resources are the main areas of emphasis for AI adoption, with public procurement and recruitment services receiving less attention.

Figure 3. Applications of AI for Internal Management in Public Administration Sectors



1.3.2 Significance of Digital Government in Public Administration

Digital government, often referred to as e-government, encompasses the utilization of digital technologies and platforms to enhance the delivery of public services, improve governance, and foster citizen engagement. It represents a paradigm shift from traditional bureaucratic models of public administration to more agile, transparent, and responsive systems that leverage technology to meet the evolving needs of citizens. The significance of digital government lies in its potential to streamline administrative processes, increase efficiency, and promote accountability within government institutions.

In the context of the United Arab Emirates (UAE) and Türkiye, digital government initiatives are pivotal in addressing the challenges posed by rapid urbanization, economic diversification, and the demand for improved public services. Both nations recognize that effective digital governance is essential for fostering trust between citizens and government, enhancing public sector performance, and ensuring sustainable development. The implementation of digital government strategies not only facilitates better service delivery but also empowers citizens by providing them with greater access to information and opportunities for participation in governance processes.

1.4 Artificial Intelligence: Definitions and Classifications

Artificial Intelligence (AI) is one of the most influential technologies in the landscape of digital transformation. Although there is no single universally accepted definition of AI, it generally refers to the capacity of machines to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, perception, and language understanding. Russell and Norvig (2009) define AI as “the study of agents that receive percepts from the environment and perform actions.” In the public sector context, AI can enhance government operations through automation, predictive analytics, and decision-support systems.

AI is a set of techniques and algorithms that solve complex problems using computational methods. It has two types: strong and weak. The progression of AI-based systems starts with ANI, progresses to AGI, and culminates in AAI. However, there's a lack of consensus on defining AI due to its complexity. AI has been defined as a set of techniques, algorithms, and tools that allow us to solve problems that, a priori, require a certain degree of intelligence, in the sense that they are challenging even for the human brain (Giletta, et., 2020). Thus, AI involves using computational methods to address complex problems that may typically require human intelligence. In another meaning, AI must include the development of software or machines that exhibit human-like intelligence.

Martinez (2019) defined AI by discussing the distinction between complex and sophisticated programs and systems, and systems are capable of autonomy or human-like intelligence. One can infer that there are two basic types of AI, weak and strong. The author proposed that Strong AI refers to systems that act autonomously to think and make decisions, while Weak AI follows instructions. Dobrev (2004) describes AI as a program that, in any given world, can cope not worse than a human. The definition excludes knowledge from intelligence and focuses on ability to learn.

An additional key aspect that warrants attention is Gen-AI. Gen-AI significantly differs from traditional AI in empowering government governance and enhancing public service efficiency because it is a transformative technological innovation, and research findings on AI technology adoption cannot be simply applied to the field of Gen-AI. Zhou, et al. (2025) assume that “the application of Gen-AI is transforming the ways humans work and innovate, accelerating iteration speeds and reducing work costs by delegating tasks to AI agents”.

The progression of AI-based systems commences with artificial narrow intelligence (ANI), then advances to artificial general intelligence (AGI), and ultimately culminates in artificial super intelligence (ASI). Additionally, the concept of human-level intelligence (HLI) has been defined as an agent equivalent to a human in terms of thinking and acting capabilities (Saghiri, et., 2022).

Different researchers and experts have varying perspectives on what constitutes intelligence, leading to a lack of consensus on how to define AI. In this vein, Wang (2019) debates that

there is no widely accepted definition of Artificial Intelligence (AI) because the concept of intelligence is complex and multifaceted. Additionally, one can infer that the lack of a widely accepted definitions can lead to confusion within the field, making it challenging to establish common evaluation criteria, progress milestones, and research objectives.

Furthermore, the literature review effectively integrates theoretical concepts such as weak and strong AI, as discussed by Martinez (2019), and the progression of AI-based systems from ANI to AGI to ASI, the argument provides a solid theoretical foundation for understanding the evolution of AI technologies.

To better understand the scope and nature of AI in public administration, it is necessary to consider its classification. AI is typically categorized into three types: Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI), and Artificial Superintelligence (ASI) (Bostrom, 2014).

- **Artificial Narrow Intelligence (ANI)** refers to AI systems designed to handle a single or limited task. These systems operate within pre-defined boundaries and do not possess consciousness or self-awareness. Examples include facial recognition software, natural language processing, and autonomous vehicles. ANI is currently the most developed and widely applied form of AI, including in public administration for tasks like document classification, citizen inquiries, and automated decision-making.
- **Artificial General Intelligence (AGI)** is a theoretical concept referring to AI systems with the ability to understand, learn, and apply knowledge across diverse domains, much like human cognitive abilities. AGI would be capable of reasoning and adapting in ways similar to a human being. Although not yet realized, AGI raises important philosophical and ethical questions about the future of decision-making authority and accountability in governance.
- **Artificial Superintelligence (ASI)** represents a hypothetical stage where AI surpasses human intelligence in all aspects, including creativity, general wisdom, and emotional intelligence. Bostrom (2014) argues that the development of ASI would have profound implications for society, governance, and global order, necessitating advanced ethical and regulatory frameworks.

Understanding these classifications helps delineate the current capabilities and future potential of AI in government settings. While public administration systems presently operate with ANI-based technologies, the policy and ethical debates often anticipate AGI and ASI-related risks, highlighting the importance of proactive governance frameworks.

1.4.1 Integration of AI and Other Technologies in Enhancing Governance

Artificial Intelligence and digital government are deeply interrelated phenomena. While digital government sets the broader paradigm of technology-enabled governance, AI represents one of its most powerful enablers. The integration of AI into public administration enhances the capacities of digital government by introducing new functionalities such as automation of routine tasks, intelligent decision-support systems, and predictive policy modeling.

AI's role within digital government frameworks can be categorized into several operational domains. First, it contributes to **process automation** by enabling robotic process automation (RPA) for tasks such as form processing, email management, and report generation (Mergel, 2019). This reduces administrative burden and frees up human resources for higher-order tasks. Second, AI enhances **policy intelligence** through the analysis of big data to identify trends, forecast scenarios, and support evidence-based policymaking (Wirtz et al., 2018). Third, AI supports **citizen engagement** by powering chatbots, virtual assistants, and personalized interfaces that facilitate more responsive public service delivery.

However, the integration of AI into digital government also brings governance challenges. Scholars such as Veale and Brass (2019) emphasize that AI systems embedded in public administration must be designed with accountability, transparency, and fairness in mind. Issues such as algorithmic bias, lack of explainability, and data privacy violations can undermine trust in government institutions. Moreover, the opacity of algorithmic decision-

making can create legitimacy deficits, especially when citizens are affected by outcomes they cannot understand or contest.

In light of these concerns, digital government must evolve to incorporate not only technological sophistication but also ethical governance mechanisms. This includes the development of AI principles, guidelines for responsible use, and regulatory oversight bodies. The European Commission's High-Level Expert Group on AI (2019) has articulated key requirements for trustworthy AI, including human agency, technical robustness, privacy, transparency, non-discrimination, and societal well-being. These principles serve as foundational guidelines for AI deployment in public administration.

The integration of Artificial Intelligence (AI) and other advanced technologies into digital government frameworks is transforming the landscape of public administration in both the UAE and Türkiye. In the UAE, the government has made significant strides in adopting AI as a core component of its digital government strategy. The UAE Artificial Intelligence Strategy 2031 aims to position the country as a global leader in AI, with a focus on enhancing public services, optimizing resource allocation, and improving decision-making processes. AI applications in the UAE include predictive analytics for urban planning, AI-driven chatbots for citizen engagement, and automated systems for processing government transactions, all of which contribute to a more efficient and responsive public administration.

On the other hand, Türkiye is also recognizing the importance of integrating AI and other digital technologies into its governance framework. The Turkish government has initiated various projects aimed at digitizing public services and enhancing administrative efficiency. For instance, the establishment of the e-Government Gateway (e-Devlet) serves as a centralized platform for citizens to access a wide range of public services online. The incorporation of AI technologies in Türkiye's digital government initiatives is gradually being explored, particularly in areas such as data analysis for policy formulation and improving service delivery through automated systems.

Both nations face unique challenges in the integration of AI within their digital government frameworks. In the UAE, the emphasis on rapid technological advancement necessitates a robust regulatory framework to ensure ethical AI deployment and data privacy. Meanwhile,

Türkiye's integration of AI is influenced by its socio-economic context, requiring a focus on bridging the digital divide and enhancing digital literacy among citizens to ensure equitable access to digital services.

In conclusion, the concept of digital government is integral to the evolution of public administration in both the United Arab Emirates and Türkiye. The significance of digital governance lies in its ability to enhance service delivery, promote transparency, and foster citizen engagement. The integration of AI and other technologies into digital government frameworks presents opportunities for both nations to improve governance and address contemporary challenges as interviewees state from both countries. As they continue to navigate the complexities of digital transformation, it is essential for both the UAE and Türkiye to prioritize ethical considerations, inclusivity, and capacity building to fully realize the potential of digital government in enhancing public administration.

1.4.2 Impacts of Development Phases of Artificial Intelligence in Public Administration

The incorporation of AI into public administration does not merely modify existing processes; it transforms the very structure and philosophy of governance. Traditional bureaucratic models—defined by hierarchy, formal rules, and reactive service delivery—are being reshaped by intelligent systems that offer real-time data processing, predictive analysis, and dynamic resource allocation.

One of the most significant transformations is the shift from manual to algorithmic decision-making. In areas such as welfare eligibility, fraud detection, and resource distribution, AI systems are increasingly determining outcomes based on statistical inference and pattern recognition. While this can improve efficiency, it also raises questions about discretion, fairness, and redress mechanisms. As Eubanks (2018) cautions, automation in social services can reinforce structural inequalities if algorithms are trained on biased data or lack contextual awareness.

AI also changes the roles and competencies required of public servants. As machines take over routine tasks, public administrators are expected to engage in strategic oversight, data

interpretation, and cross-sector collaboration. This necessitates a cultural and educational shift within public institutions, emphasizing digital literacy, ethical awareness, and adaptability.

Furthermore, AI promotes a move toward anticipatory governance, where governments use predictive analytics to identify risks, allocate resources proactively, and design policies based on future scenarios (Kuhlmann et al., 2019). This model enhances resilience and agility but also demands sophisticated institutional coordination and robust data governance frameworks.

The transformative potential of AI must be accompanied by institutional safeguards. Trust, legitimacy, and public accountability remain central to democratic governance. Therefore, public institutions must not only embrace technological change but also ensure that AI systems align with the values of equity, justice, and human rights. Governance frameworks must be adaptive, inclusive, and participatory, enabling citizens to understand, challenge, and influence AI-driven administrative processes.

AI in government enhances public agency management through algorithms, robotics, and computational techniques, but introduces complexity, uncertainty, and risk. Robust decision-making frameworks are needed to manage these risks, and new theories and conceptual frameworks are needed.

AI in government involves the design, building, use, and evaluation of intelligent algorithms, robotics, and computational techniques to improve the management of public agencies. The integration of AI into public administration can lead to improved decision-making and citizen engagement but also raises concerns about privacy, surveillance, and algorithmic bias (Uzun, et, 2022). AI techniques are being implemented to improve internal government processes, the provision of services, interaction with citizens, and the development of national strategies for AI implementation (Interviewee, Mulla, UAE). AI has the potential to help in decision-making, understanding and deriving meaningful results from complex big data nexus, and promoting faster and more specific answers to complex societal problems in public administration and political science.

The main objective of the investigation discussed in the dissertation is to assess the public policy-cycle framework in the age of artificial intelligence (AI), regarding the actual and expected changes that these emerging technologies will bring about at different moments in the policy-making process. The study aims to understand the implementation of AI and work toward a dynamic framework by studying practical cases through the lens of the policy-making cycle.

The use of AI in public administration is increasing gradually, and it is becoming a powerful force for change in this sector (Hassan et al., 2023). The varied capabilities of AI have the ability to completely transform the functioning and delivery of services in public administration.

Studies show the growing complexity of applying AI to government and the ensuring potential, risks, and ramifications for public administration. Researches focus includes assessments of successful implementation, engagement, and communication plans for government strategies on AI usage in the public sector, as well as the establishment of strong, multidisciplinary theoretical underpinnings for the use of AI for public governance. Research on the governance, policy, and regulatory aspects of AI is scarce.

In the early stages of AI development, government agencies began exploring the use of AI for operational tasks such as data analysis, decision-making support, and automation of routine administrative processes. For example, AI algorithms were developed to aid in policy-making by analyzing large volumes of data and providing insights for decision-making. These algorithms helped government agencies to make more informed and evidence-based policy decisions (Loukis et al., 2019). The historical development of AI in public administration has seen governments invest in capacity development for AI and the inclusion of public services to be transformed by the use of AI technologies (Marmolejo-Ramos et al., 2022).

Moreover, divergent opinions exist regarding the best ways to address the difficulties posed by AI to the public sector going forward. Therefore, there is a research gap of the potential impacts of using AI in both developed and developing countries. The need for new theories and conceptual frameworks for understanding artificial intelligence (AI) in government, the

potential benefits and pitfalls of AI applications, and the fragmented nature of the emerging study of AI in government has been confirmed (Straub, Morgan, Bright and Margetts, 2022).

Another piece of literature talks about the ethical and social impact of AI, the need for democratic and fair global governance of AI, and the desiderata for theorizing about democratic and fair AI governance. The central concerns raised by the advent of AI technology include the ethical and social impact of transformative AI on society. These concerns encompass questions about the potential reshaping of social dynamics, the impact on employment due to automation, the distribution of benefits and burdens of AI technology, and the potential threats posed by super intelligent systems. Additionally, the governance of AI technology and its potential impact on existing institutions, such as welfare state institutions and intellectual property regulations, are also central concerns (Erman and Furendal, 2022).

Moreover, a study investigates the impact of big data and AI on political, social, and economic life, the ethical and moral implications of AI, and the need for philosophical contributions to address the challenges posed by AI and big data. It explores moral questions related to AI's use in complex social, political, and economic structures, focusing on justice, fairness, power relations, workplace dynamics, democratic processes, privacy, exploitation, and manipulation (Zimmermann, Vredenburg and Lazar, 2022).

Loi and Spieckamp (2021) discuss the concept of accountability, its relationship to automation, and the value of public transparency and auditing in ensuring accountability in the use of AI. Erman and Furendal (2022) study the undertheorized concept of AI governance, the importance of political legitimacy in AI governance, and the distinction between "governance by AI" and "AI governance." In this vein, Fligueriras (2021) suggests that AI governance in public administration must address ambiguities and uncertainties in algorithms' results and public managers' decisions. Thus, to design institutions, decision makers should understand AI governance and reconcile consequentialist logic with appropriateness to navigate these complexities.

It can be traced back to the use of expert systems in the early years, which aimed to mimic the knowledge and decision-making capabilities of human experts. The historical

development of AI in public administration has evolved from the use of expert systems to advancements in predictive analytics, data mining, and machine learning (Yolvi et al., 2021).

AI also highlights the economic benefits of e-government services and systems, and the need for better government-citizen interaction. However, it also highlights challenges such as decreasing citizens' trust, privacy violations, lack of transparency, slower adoption, limited understanding of AI implications, data availability and quality, organizational resistance, employee knowledge, complex interpretation of AI results, ethical and legitimacy issues, social and societal impacts, and potential economic harm (Zuiderwijk, Salem and Chen, 2021).

Floridi (2020) examines the launch of open AI registers in Helsinki and Amsterdam, the normalization of AI as a utility, and the ethical approach to AI in public services. Meanwhile, Najdawi (2020) assures the adoption of AI in the UAE can lead to the creation of new job opportunities in AI-related fields and drive innovation within existing industries. The implementation of AI in the United Arab Emirates has the potential to revolutionize various sectors, including transportation, healthcare, education, and the economy as a whole.

AI adoption in public administration has the potential to transform service delivery and decision-making. Over the years, artificial intelligence has played an increasingly important role in public administration, revolutionizing various aspects of governance and decision-making processes. One of the earliest applications of AI in public administration was in the field of expert systems (Sousa et al., 2019).

However, with this transformative potential comes complexity, uncertainty, and risk. In order to fully realize the potential of AI to transform public services and administration, it is imperative to develop robust frameworks for decision-making that can navigate this complexity and effectively manage the risks and uncertainties associated with AI implementation in the public sector (Reis et al., 2019). A comprehensive analysis of available literature on the consequences of implementing Artificial Intelligence (AI) in public governance and the advancements in research objectives examines the advantages and challenges of AI in government, including improving public service quality, boosting citizens' trust, increasing efficiency, and generating accurate forecasts.

Further study examines the concept of artificial discretion, the impact of artificial intelligence on public administration, and the framework for evaluating artificial discretion. It explores the effects of AI on public administration, highlighting its potential to shift discretion from street-level to systems-level bureaucracies, improve scalability, reduce costs, and enhance quality, but also raises equity, manageability, and political feasibility concerns (Young, Bullock and Lecy, 2019). The use of AI technologies in the public sector, and the different techniques falling under the umbrella of AI have been explored (Reis, Melao and Santo, 2019).

1.4.3 The Potential Opportunities and Challenges of AI within the Public-Cycle

AI can revolutionize government, service provision, and policy development, but challenges include collaboration, automation, and understanding implications. AI can enhance intelligence, improve education, and replace human labor, requiring training.

Policymakers are advised not to preemptively restrict AI technologies out of an abundance of caution for perceived safety, welfare, and market risks. Instead, they should address any issues that arise as technologies develop.

The integration of AI in public administration could include making public administration faster, more efficient, precise, transparent, and responsive to the needs of citizens. Artificial Intelligence (AI) has the capacity to revolutionize various facets of government, encompassing procedures, engagement with citizens, provision of services, decision-making, and the development and assessment of public policies. AI-based technologies can promote faster and more specific answers to increasingly complex societal problems.

However, the challenges of AI in the public policy-cycle include the need for collaboration of different specialists in the field, massive automation of processes within government, and involving new professionals to promote AI implementation. Additionally, there is a lack of understanding of the implications of AI in the policy process, as it is a recent trend and many governments are still trying to comprehend AI applications and find important applications for their research (Valle-Cruz, et., 2020).

Moreover, the main opportunities of artificial intelligence (AI) include its potential to revolutionize the economy, increase productivity, and enhance human intelligence. AI can optimize logistics and supply chain, diagnose diseases, predict and prevent epidemics, and tailor recommendations to individual preferences (Renda, 2019). It can also empower individuals by augmenting human intelligence, expanding educational opportunities, improving health outcomes, and navigating information overload in society.

However, AI also poses limitations and challenges. It can be disruptive, leading to the transformation of stable jobs into temporary ones and creating a new “precariat” workforce. AI can exacerbate existing societal biases, deepen inequality, weaken competition and democracy, and contribute to the deterioration of trust in modern societies. Additionally, AI can be unpredictable, as algorithms may generate outcomes that surprise even their developers, leading to potential risks and unintended consequences.

Martinho-Truswell (2018) suggests that the government might potentially utilize machine learning to substitute human labor in occupations that primarily include the collection of extensive data, complex calculations, and routine tasks that need adherence to certain regulations. He stressed the need of utilizing machine learning algorithms to enhance the precision of government processes.

Daugherty and Wilson (2018) forecasted in their latest publication, *Human+Machine* that AI systems will generate significant progress and consistently provide a substantial amount of employment, particularly in roles that include interaction between intelligent computers and humans. They emphasized the crucial role of businesses and governments in providing people with the necessary training and information to develop fusion skills essential for the emerging professions in the era of artificial intelligence.

The significance of AI policy lies in addressing the challenges and implications of artificial intelligence on society. AI policy aims to regulate and guide the development, deployment, and use of AI technologies in a way that aligns with societal values, ethics, and interests (Calo, 2017). For example, in the UAE, the ethical guidelines for AI, established by the Ministry of State for Artificial Intelligence, similarly prioritize privacy and data protection while promoting a human-centered approach to technology. As a result, the UAE’s

framework incorporates a proactive stance on privacy, advocating for “privacy by design” and the establishment of multi-stakeholder governance systems to ensure compliance with ethical standards.

Thus, it involves considerations related to justice, equity, safety, privacy, power dynamics, taxation, displacement of labor, and other cross-cutting issues. By establishing AI policies, policymakers can ensure that AI technologies are developed and utilized in a manner that benefits society as a whole while mitigating potential risks and negative impacts.

While AI offers numerous benefits in public administration, challenges such as data privacy, transparency, and workforce displacement must be carefully addressed. As noted by Mehr (2017), the adoption of AI in government services can lead to job transformation and the need for upskilling the workforce. Therefore, policymakers and decision-makers must prioritize ethical AI governance, stakeholder engagement, and continuous training to mitigate potential risks and ensure responsible AI adoption.

Additionally, he concurred that AI devices offer a substantial opportunity for governments to improve a diverse array of services provided to citizens. Based on his survey, the majority of respondents express dissatisfaction with governmental services that provide information and respond to inquiries. Citizens seeking a response often encounter extended periods of time on hold when using the phone. Hence, the government may tackle this problem by deploying AI software to enhance customer service responsibilities in many public sectors.

AI technology has the capability to handle ordinary administrative tasks and address requests from the public (Mehr, 2017). Miller (2017) identified 26 potential ways in which artificial intelligence (AI) may be beneficial to the government. One of the 26 techniques was the utilization of AI in various public sectors such as healthcare, transportation, security, and water management. The panel of experts discussed the impact of artificial intelligence on traffic management and transportation. The government's utilization of AI technology in the transportation business enables the prediction of traffic congestion. The government can enhance its ability to strategize for transportation that is both safer and less congested by comprehending these trends (Miller, 2017).

1.5 The UAE Government's Vision Encompasses Its Plans and Strategies

The UAE government, established in 1971, has implemented various technologies to improve services, living standards, and efficiency, including the Electronic Government Strategic Plan and Artificial Intelligence Strategy. Since its beginnings, the government has permanently tried to develop innovative operational frameworks to boost the quality of its services and provide typical living standards for its citizens. The UAE started to employ various technologies to increase efficiency and production. Consequently, it has implemented the Electronic Government (E-Government) Strategic Plan 2011-2013, which involved Informational and Communications Technology (ICT) into the services of different government aspects (Al-Khour, 2012).

In 2010, the UAE government presented its plan for 2021, where primarily seeks to develop the quality of work in various governmental sectors (UAE Vision 2021, 2018). The government introduced its plan in 2013 to implement the Smart Government, also known as Mobile Government (M-Government) which aims to provide governmental services to the people through their smart devices at any time. With respect to the UAE's 2071 Centennial Plan, the government conducted its long-term goal spanning five decades aimed to guiding the nation towards achievement and prosperity in multiple fields. Referring to the UAE's Vision 2021, its strategy aligned with four key strategic objectives including; government, education, economy and community. The nation's ultimate objective is to possess the most exceptional administration, education system, economy, and contented communities (Chand, 2017).

Simply put, the UAE seeks to surpass all other nations by the year 2071. In light of this, the UAE government will give utmost importance to the implementation of the latest technical advancements as the main method of accomplishing the objectives stated in its long-term vision. To ensure the future prosperity of the next generation in a rapidly evolving world, the UAE government will undertake several programs and policies (Government.ae, 2018).

Graibeh et al. (2024) conduct a study of a comprehensive Capability Assessment Framework aimed at facilitating the adoption of Artificial Intelligence and Blockchain technologies within the public sector of the UAE where they propose a maturity model that organizations

can utilize to assess their capabilities in deploying these technologies, thereby highlighting areas for improvement and enhancing overall operational efficacy.

The United Arab Emirates' aim for artificial intelligence by 2031. In 2017, the UAE government implemented its Artificial Intelligence (AI) Strategy, marking a significant transformation in the country's history. Primarily, the AI strategy of the UAE will have a substantial impact on achieving the goals of the UAE Centennial Plan for 2071, which aims to establish the UAE as the foremost nation on the planet. Hence, the objective of the plan is to integrate a diverse array of AI-driven systems with the aim of enhancing overall government efficiency, addressing issues in a more efficient and timely manner, and positioning the UAE as a frontrunner in artificial intelligence investments across multiple sectors (Government.ae, 2018).

The Strategy aims to deploy artificial intelligence (AI) technology in nine key industries, which include:

1. Traffic management: to reduce accident rates, alleviate traffic congestion, and provide more effective traffic laws.
2. Environment: leads to expedite reforestation efforts.
3. Education: to enhance the pedagogical approach.
4. Technology: to boost efficiency and output.
5. Water: to facilitate study and analysis on water resources.
6. Space exploration: to conduct highly accurate research with a reduced margin of error.
7. Renewable energy: is responsible for supervising many renewable energy plants.
8. Health: to mitigate the occurrence of severe and chronic diseases.
9. Transportation: to decrease the occurrence of accidents and minimize operational costs.

The Minister and Council members are now engaged in the process of establishing regulations to ensure the safe utilization of AI technology. The government is arranging seminars and training programs for staff to include AI systems, and has entered into

cooperation with UK institutions to educate students and employees in the potential of intelligent machines.

1.6 Vision, Plans, and Strategy of the Turkish Government

Türkiye's National Artificial Intelligence Strategy aims to align AI efforts between 2021-2025, focusing on improving decision-making, service delivery, and resource allocation in public administration.

On one hand, the use of artificial intelligence in public administration is having a profound impact on the structure and functioning of government institutions in Türkiye. This transformation is evident in various aspects, such as decision-making processes, service delivery, and resource allocation. AI is enabling more efficient and data-driven decision-making in public administration, allowing for the analysis of large volumes of information and the identification of trends and patterns that may not be easily discernible by humans. Furthermore, AI is enhancing the delivery of public services in Türkiye by automating routine tasks, reducing bureaucracy, and improving the accuracy and speed of transactions.

The National Artificial Intelligence Strategy (NAIS) was developed by the Digital Transformation Office and the Ministry of Industry and Technology in Türkiye, in line with the Eleventh Development Plan and Presidential Annual Program for 2021. It outlines measures to align Türkiye's AI efforts amidst 2021-2025 and establishes governance mechanisms to implement these measures. The strategy is exploratory due to rapid advancements in AI.

As part of the NAIS preparations, workshops were held, domain experts from various disciplines were asked to provide their evaluations, and interviews were conducted on-site and online with public institutions, universities, private sector organizations, NGOs, and international organizations (Interviewee, Orhan, Türkiye). Within this framework, the Strategy was developed by considering the current state of affairs and national development objectives, in addition to the global trends created by the paradigm change in economic and social life that emerged owing to AI. Within this framework, NAIS's mission was established as follows; generating worldwide value through an adaptable and sustainable AI ecosystem for a successful Türkiye.

Avaner and Çelik (2021) argue that while Türkiye is still in the nascent stages of AI development compared to leading countries, significant strides are being made to incorporate AI into public governance. Furthermore, they highlight the challenges and ethical considerations associated with AI deployment in governance, advocating for a balanced approach that fosters innovation while addressing potential risks. Türkiye has been implementing information society policies since the end of the 1990s, and in 2018, when it switched to the Presidential Government System, the significance of digital transformation increased. In this regard, there is a growing emphasis on the implementation of “Digital Türkiye” from a political and administrative standpoint. The goal of the Digital Türkiye’s vision is to make Türkiye globally competitive through the use of digital technology, products, and services in social, economic, and public activities; these can lead to an increase in productivity and value creation from data.

Nonetheless, the impact of unrest and structural changes in the world economy has made the localization of vital technologies a significant political priority for bolstering national security as well as social welfare. Konu and Ata (2022) emphasize that budget deficits pose critical macroeconomic challenges, exacerbated by factors such as high inflation, insufficient savings, and rising public debt, particularly in developing countries like Türkiye.

Within this framework, the "National Technology Move" is a response to monopolization in scientific and technological advancements by instituting policies and practices that will boost Türkiye's competitiveness in the global market, fortify its economic and technological independence, and yield breakthroughs in vital technologies.

The utilization of AI in public administration in Türkiye officially began in 2020. However, there have been some pilot projects and initiatives that started as early as 2018, exploring the use of AI to streamline government services and improve efficiency and decision-making processes in various domains of public administration.

In 2020, the Turkish government has followed the ambitious national AI strategy aimed at integrating artificial intelligence into various aspects of public administration. This strategy focuses on leveraging AI to enhance service delivery, optimize resource allocation, and bolster decision-making across government agencies. The initial phase of the strategy involved the establishment of AI labs within key ministries and the training of public officials

in AI technologies and applications. As part of this effort, pilot projects were implemented to test AI-driven systems in areas such as e-government services, healthcare management, and urban planning. These initiatives marked a significant step towards realizing the potential of AI in transforming public administration in Türkiye.

1.7 AI Adoption in Türkiye and UAE

The UAE is integrating AI into its educational programs to prepare students for a future where AI plays a significant role. The UAE Government is implementing AI-driven strategies to improve performance, focusing on agility, AI proficiency, data intelligence, and transformational leadership. AlDarwish (2021) investigates AI's effectiveness in UAE government decision-making, while AlMesafri and Habes (2023) recommend public policies, training, and leadership in AI applications. Uluşan (2023) explores AI's potential in Turkish administrative jurisdiction and Istanbul's use in human resources. While Türkiye's AI policy framework is largely shaped by its 2021-2025 strategy, recent global trends indicate the need for further regulatory adaptations. In 2024, the UAE Cabinet reaffirmed its AI governance stance, emphasizing international collaboration and regulatory advancements (UAE Government, 2024). Similarly, a World Economic Forum (2024) report highlights that AI governance worldwide is increasingly focused on cross-border cooperation, ethical safeguards, and skill development, trends that both Türkiye and the UAE must consider as they refine their AI strategies

Moreover, the implementation of AI in public administration can lead to increased citizen satisfaction and engagement. By automating routine tasks, reducing bureaucracy, and providing personalized services, AI technologies can enhance the overall citizen experience. This is supported by the research of Uluşan (2023), who highlighted the potential of AI to address issues like bureaucracy, delayed decisions, and excessive costs in public services in Türkiye.

Since governments worldwide are increasingly utilizing AI technologies to enhance citizens' experiences and process efficiency, Dahabreh (2023) tries to understand the impact of organizational and technological factors on AI intention in public sector organizations.

Seeking to positive changes and national progress in UAE, AlMesafri and Habes (2023) focus on human resources departments' application of AI in government institutions mentioning key recommendations included; establishing public policies and ethical laws, providing training and development courses, and deepening the UAE's leadership in AI applications.

The fourth industrial revolution is expected to increase the importance of proactive and intuitive public services over reactive ones. Therefore, the Reactive-Proactive service delivery framework can help design and deliver services that improve people's wellbeing. The successful implementation of this system necessitates the presence of various elements, including ICT infrastructure, data, human capabilities, leadership vision, and supported policies (Abdelmoteleb and Nohuddin, 2023).

Diab (2023) uses SPSS tool to analyze how technological advancements, economic development, and financial crises have significantly impacted customer behavior, putting pressure on the global economy. She finds that İstanbul has started utilizing AI in human resources, making work more manageable and easier to deal with customers in government organizations.

By incorporating AI into educational programs, the UAE can equip students with the necessary skills and knowledge to adapt to a future where AI plays a prominent role (Johnson et al., 2022).

Savaş (2021) studies how the transfer of technological innovations to education and training environments directly impacts educational and development levels. To create AI algorithms, sufficient data is required from various stakeholders, including students, teachers, parents, school employees, administrators, and employers. Furthermore, he discusses artificial intelligence strategies and their applications in education.

The review effectively addresses the ethical considerations and social impacts associated with AI in public administration, as highlighted by Erman and Furendal (2022) and Diab (2022). By acknowledging the importance of ethical AI governance and the potential implications on customer behavior and the global economy, the argument demonstrates a critical awareness of the broader societal implications of AI adoption.

İçen (2022) explores the impact of artificial intelligence on Turkish education using a qualitative research approach. The research highlights Türkiye's fragmented structure and the government's policy documents highlighting the role of colleges in AI strategies for workforce growth. The study also highlights the growing private education industry and international interest in AI. However, the research shows a decline in understanding of AI methods, requiring further awareness.

AlDarwish (2021) investigates AI's effectiveness in UAE Government decision-making, focusing on service quality, transaction efficiency, cost reduction, and revenue. A qualitative approach with 40 decision-makers has been used to analyze using AI Natural Language Processing algorithms.

The UAE Government is implementing AI-driven strategies to improve performance, where AlMarzooqi (2019) suggests redefining leadership to foster innovation and data-driven organization taking into consideration key competencies include; agile mindset, AI proficiency, data intelligence, and transformational leadership theory, and innovative development methods.

The literature review presents in the academic argument provides a comprehensive overview of the implications of Artificial Intelligence (AI) adoption in public administration, focusing on the United Arab Emirates (UAE) and Türkiye. The argument effectively highlights the benefits of AI in enhancing governance, decision-making processes, and service delivery, supported by insights from scholarly sources and research findings.

Uluşan (2023) in his book “The Possibility of Using Artificial Intelligence for Turkish Administrative Jurisdiction” confirms that Artificial Intelligence (AI) is revolutionizing public services by addressing issues like bureaucracy, delayed decisions, and excessive costs. AI can improve analytical abilities, understanding of real-time processes, and short feedback loops. In the Turkish judicial system, AI can improve speed, accuracy, support, and quality. He analyzes the impact of AI on public service delivery and its potential in Turkish law, examining its admissibility and usability in the jurisdiction. It aims to determine if existing norms can be controlled by AI or if certain requirements may allow its adoption.

One strength of the literature review is its integration of diverse perspectives on AI in public administration, ranging from the definition of AI by Dobrev (2004) to the practical applications and impacts discussed by AlDarwish (2021) and Uluşan (2023). By drawing on a range of sources, the argument presents a well-rounded view of the subject matter, demonstrating a thorough understanding of the complexities and nuances of AI adoption in government settings. To sum up, this chapter provides a comprehensive overview of the implications of Artificial Intelligence (AI) adoption in public administration, with a focus on the United Arab Emirates (UAE) and Türkiye. The literature review delves into the ethical considerations, social impacts, and potential benefits and challenges associated with integrating AI technologies into government operations. By examining theoretical frameworks, practical examples, and empirical studies, it offers a nuanced understanding of the complexities surrounding AI adoption in public administration. Furthermore, it underscores the importance of understanding the implications of AI adoption in public administration and highlights the need for further research to address the evolving landscape of technology in government operations. By bridging theoretical insights with practical applications, it contributes to the ongoing discourse on AI adoption in public administration and sets the stage for future research and policy development in the UAE and Türkiye.

CHAPTER II: THEORETICAL PERSPECTIVES AND SECTORAL APPLICATIONS OF AI IN PUBLIC ADMINISTRATION

2.1 Introduction

The fourth industrial revolution is being driven by a number of technology disciplines including; AI, robotics, internet of things (IoT), 3D printing and nanotechnology (Schwab, 2016). Efe (2022) highlights the profound changes brought about by emerging technologies such as the Internet of Things (IoT), big data, machine learning, quantum computing, and block chain, which are reshaping both personal and professional environments.

The advent of Artificial Intelligence (AI) has ushered in a new era of technological advancement, profoundly impacting various sectors, including public administration. Smart government is an e-government adaptation aimed at improving citizen engagement, accountability, and interoperability through rapid digital technological change (Gil-Garcia., et, 2016). As governments worldwide grapple with the complexities of integrating AI into their operations, the United Arab Emirates (UAE) and Türkiye stand out as two nations actively pursuing innovative strategies to leverage AI for enhancing governance and public service delivery. The UAE, with its ambitious national AI strategy, aims to position itself as a global leader in AI adoption, while Türkiye is focusing on modernizing its public administration through e-Government initiatives that harness digital technologies.

This section provides a comprehensive overview of the integration of AI in public administration within the contexts of the UAE and Türkiye. Smart governments-including Türkiye and UAE governments are using intelligent technologies to manage complex, uncertain environments, foster innovation, sustainability, competitiveness, and livability (Gil-Garcia., et, 2014). It explores the transformative potential of AI to improve operational efficiency, enhance citizen engagement, and streamline service delivery. However, the integration of AI also raises significant ethical considerations, including issues of bias, accountability, and privacy, which necessitate the development of robust governance frameworks. The effective management, robust legal frameworks, and continuous monitoring are vital for harnessing AI's advantages while mitigating its risks in the content of public administration (Güven, 2024). Furthermore, the importance of stakeholder

engagement and inclusive governance is underscored as critical factors for the successful implementation of AI technologies in public administration.

Through a systematic examination of the current state of AI integration in the UAE and Türkiye, this chapter aims to elucidate key insights and identify best practices that can inform future research and practice in AI governance. By addressing the challenges and opportunities presented by AI, this analysis contributes to the broader discourse on the role of technology in shaping modern governance and public administration. Ultimately, the findings seek to provide actionable recommendations for policymakers and public administrators in both nations, ensuring that the integration of AI aligns with democratic values and serves the public interest. A comprehensive overview of the integration of Artificial Intelligence (AI) in public administration and its implications for governance, service delivery, and ethical considerations has been drawn as shown in table (1).

Table (1¹): Comprehensive overview of the integration of AI in public administration.

Title	Summary
<i>AI's Transformative Potential</i>	AI is seen as a transformative force in public administration, enhancing the efficiency and effectiveness of government operations. It introduces advanced automation and decision-making capabilities that can significantly improve service delivery.
<i>Comparison with E-Government</i>	While e-Government focused on digitizing government processes, AI adds a new layer of complexity by enabling predictive analytics and personalized services. This shift raises questions about whether AI represents a continuation of e-Government or introduces fundamentally different challenges.

¹ Modified by the researcher.

<i>Decision-Making Frameworks</i>	To harness the benefits of AI, public sector organizations must develop robust frameworks for decision-making. These frameworks should address the complexities, uncertainties, and risks associated with AI implementation, ensuring ethical and transparent practices.
<i>Predictive Analytics and Citizen Engagement</i>	AI applications in public administration include predictive analytics (Interviewee, Fatih, Türkiye) for better resource allocation and enhanced citizen engagement through AI-powered chatbots and virtual assistants. These technologies improve accessibility and responsiveness in public services.
<i>Ethical Considerations</i>	The integration of AI raises significant ethical concerns, particularly regarding accountability, transparency, and the potential for bias in decision-making processes. Public sector organizations must establish ethical guidelines and governance frameworks to align AI use with public interest.
<i>Digital Government</i>	The concept of digital government encompasses the use of digital technologies, including AI, to transform public administration. It aims to improve service delivery, enhance decision-making, and foster citizen engagement through technology.
<i>Caution in AI Adoption</i>	While AI offers numerous opportunities, there are concerns about job displacement, privacy risks, and the potential for exacerbating existing inequalities. Policymakers must approach AI integration with caution, ensuring that ethical considerations are prioritized.
<i>Governance Structures</i>	The complexity of AI integration necessitates the development of better governance structures that

	balance technological advancements with ethical principles. This includes ensuring that AI systems are reliable, safe, and aligned with democratic values.
<i>Public Trust and Accountability</i>	Maintaining public trust is crucial as AI systems increasingly influence decision-making. Transparency in AI operations and mechanisms for accountability are essential to uphold the legitimacy of government institutions.

2.2 Artificial Intelligence in Public Administration

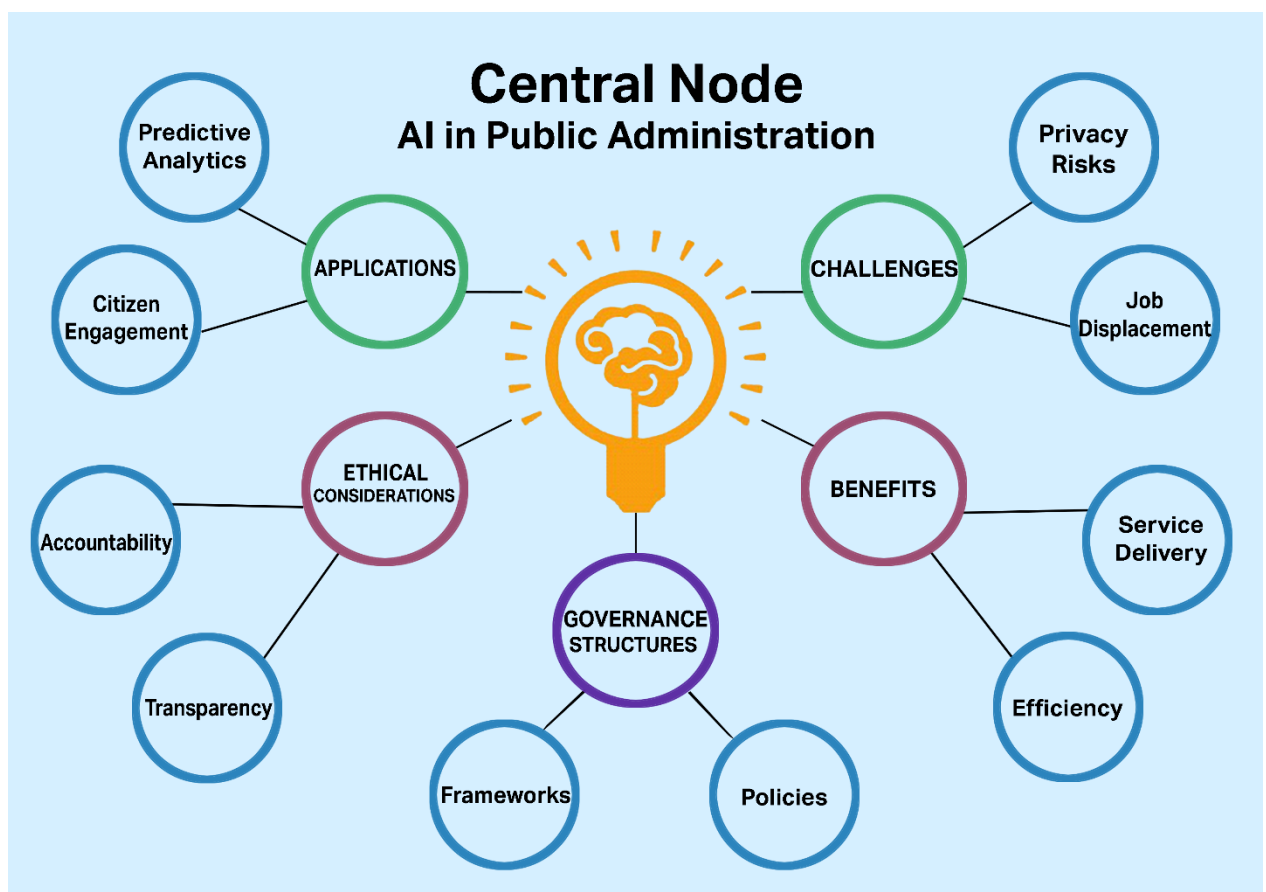
The word "artificial intelligence" is a synthetic that has led to a lot of misconceptions and unrealistic expectations because of its suggestive potential. Its inception dates back to 1956. There were numerous reasons why this year was significant. One notable example is the publication of the book "Automata Studies," which compiled now well-known cybernetics essays (Shannon & McCarthy, 1956). In addition, Bardeen, Shockley, and Brattain were awarded the Nobel Prize for the transistor in that same year.

The father of modern computing, Alan Turing, was a mathematician and computer scientist who made significant contributions to the science of Artificial Intelligence (AI) in 1950. He did this by presenting a proposal paper on Computing Machinery and Intelligence (Mijwel, 2015). In his 1950 work, Turing investigated the prospect of creating an intelligent computer system with human-like cognitive abilities. The study introduced the Turing Test, an imitation game with three participants: a computer machine, a human, and an interrogator and two players. The interrogator's job is to determine which player is a computer machine and which is a person. As a result, the Turing Test was utilized to establish the intelligence of a machine (Turing, 1950).

Artificial Intelligence (AI) has emerged as a pivotal force in reshaping the landscape of public administration, offering innovative solutions to complex governance challenges as defined

by Winston (1992) artificial intelligence (AI) primarily as the study of computations that enable perception, reasoning, and action. Defined as the capability of machines to simulate human intelligence processes, including learning, reasoning, and problem-solving, AI encompasses a range of technologies such as machine learning, natural language processing, and predictive analytics. The integration of AI into public administration signifies a transformative shift from traditional governance practices (Interviewee, Dohaibya, UAE), which have historically relied on manual processes and human decision-making.

Figure 4. Various Aspects of AI in Public Administration



Adopting cutting-edge AI and intelligent systems research in e-government and politics 2.0 applications presents a significant potential as the political and governmental processes get

more open, inclusive, online, and multimedia rich (Chen., et, 2009). The evolution of public administration has been marked by the adoption of e-Government initiatives, which primarily focus on the digitization of government services and processes. While e-Government has significantly enhanced the accessibility and efficiency of public services, the advent of AI technologies introduces a new dimension characterized by advanced automation and data-driven decision-making capabilities. This transition not only enhances operational efficiency but also has the potential to improve the quality of service delivery and citizen engagement.

As public sector organizations increasingly embrace AI, it becomes imperative to understand its implications for governance, service delivery, and ethical considerations. This chapter aims to provide a comprehensive exploration of the integration of AI in public administration, examining its transformative potential, the frameworks necessary for ethical implementation, and the challenges that accompany this technological advancement. By critically analyzing the intersection of AI and public administration, this chapter seeks to contribute to the ongoing discourse on the future of governance in an increasingly digital world.

The integration of Artificial Intelligence (AI) in public administration is a multifaceted process that can be understood through various levels of implementation and impact. These levels reflect the complexity and transformative potential of AI technologies in enhancing governance, service delivery, and decision-making processes. Below are the key levels of AI in public administration:

1. Foundational Level: Basic Automation

At this level, AI technologies are primarily used for automating routine tasks and processes within public administration. This includes the use of chatbots for answering frequently asked questions, automated data entry, and document management systems. The goal is to improve operational efficiency by reducing the time and resources required for manual tasks, thereby allowing public servants to focus on more complex responsibilities.

2. Intermediate Level: Data-Driven Decision-Making

As public administration agencies begin to leverage AI for data analysis, predictive analytics becomes a critical component. AI systems can analyze vast amounts of data to identify trends and patterns, enabling evidence-based decision-making. For instance, predictive analytics

can be used in public health to forecast disease outbreaks or in urban planning to optimize traffic management. This level emphasizes the importance of data-driven insights in enhancing the effectiveness of governance.

3. Advanced Level: Enhanced Service Delivery

At this advanced level, AI technologies are integrated into public services to provide personalized and responsive solutions. AI-driven platforms can enhance citizen engagement by offering tailored services based on individual needs and preferences. For example, AI can facilitate real-time communication between citizens and government agencies, improving accessibility and satisfaction with public services. This level reflects a shift towards more citizen-centric governance.

4. Strategic Level: Transformative Governance

This level involves the strategic integration of AI into the broader governance framework. Governments can utilize AI to enhance transparency, accountability, and efficiency in public administration. By automating decision-making processes and reducing human bias, AI can promote fairness and integrity in government operations. This level also includes the development of ethical guidelines and governance frameworks to address the challenges associated with AI adoption, such as data privacy and algorithmic bias. Algorithmic bias remains a persistent challenge in AI-driven public services, raising concerns about fairness and discrimination (Sun & Medaglia, 2019). Transparency is another key issue, as opaque AI decision-making processes can undermine public trust. The 2024 UK Parliamentary report on AI governance underscores the difficulties regulators face in ensuring accountability and mitigating risks associated with automated decision-making (UK Parliament, 2024). These concerns are particularly relevant in AI governance models like those of Türkiye and the UAE, where regulatory oversight varies significantly.

5. Innovative Level: Policy Development and Future Readiness

At the innovative level, AI is not only used to improve existing processes but also to shape future public policies. Governments can employ AI to simulate the effects of potential policies, allowing for better-informed decision-making. This level emphasizes the need for continuous adaptation and improvement of public administration practices in response to

emerging technologies and societal needs. It also highlights the importance of stakeholder engagement and inclusive governance to ensure that AI solutions are contextually relevant and socially acceptable.

The levels of AI in public administration illustrate a progression from basic automation to transformative governance, each level building upon the previous one. As governments in countries like Türkiye and the UAE continue to integrate AI technologies, they must navigate the associated ethical considerations and ensure that these advancements serve the public interest. By fostering stakeholder engagement and prioritizing ethical frameworks, public administration can harness the full potential of AI to enhance governance and improve service delivery for citizens.

2.3 The Transformative Potential of AI

The integration of Artificial Intelligence (AI) into public administration holds significant promise for enhancing the efficiency and effectiveness of public services. AI technologies provide creative solutions that help improve service delivery and streamline operations as governments throughout the world struggle with rising demands for accountability, transparency, and responsiveness. The rapid advancement of AI technologies, including machine learning, Big Data, Cloud Computing, and IoT, has significantly expanded the government's technological capabilities. These technologies are expected to fundamentally change society, necessitating the public sector to adapt and coordinate social transformation (Ahn., et, 2020).

Automating normal work is one of the main ways AI improves public sector efficiency. By leveraging machine learning algorithms and data analytics, public sector organizations can automate repetitive processes such as data entry, document management, and customer service inquiries. AI-driven chatbots and virtual assistants can promptly address citizen inquiries, so minimizing waiting periods and allowing human resources to be allocated to more intricate assignments. This not only leads to improved operational efficiency but also

enhances the overall citizen experience by providing timely and personalized assistance (Chatterjee et al. 2018).

Moreover, AI plays a crucial role in optimizing decision-making processes within public administration. Traditional decision-making often relies on historical data and human judgment, which can be subject to biases and limitations. In contrast, AI systems can analyze vast amounts of data in real-time, identifying patterns and trends that may not be readily apparent to human decision-makers. This feature empowers public managers to make data-driven decisions that are guided by thorough data analysis. For example, predictive analytics can be utilized in areas such as public health to forecast disease outbreaks, allowing for proactive resource allocation and intervention strategies.

AI-driven automation has the capacity to improve the efficiency of public services by streamlining decision-making processes. By minimizing human error and bias, AI-driven systems can contribute to more equitable outcomes in service delivery. Furthermore, the ability to process and analyze data at scale allows for a more nuanced understanding of community needs, enabling policymakers to tailor services to better meet the diverse requirements of the population.

AI has the capacity to greatly improve efficiency and effectiveness in public administration by automating tasks and making decisions based on data. As public sector organizations continue to explore the integration of AI technologies, it is essential to develop robust frameworks that ensure ethical implementation and address the challenges associated with this technological advancement. The subsequent sections will delve into the ethical considerations and governance frameworks necessary for the responsible deployment of AI in public administration.

2.4 Frameworks for Ethical AI Implementation

As the integration of Artificial Intelligence (AI) into public administration accelerates, the necessity for developing rigorous frameworks for ethical AI implementation becomes increasingly paramount. These frameworks are essential not only for guiding the responsible deployment of AI technologies but also for ensuring that the benefits of AI are realized in a manner that aligns with democratic values and public interest (Interviewee, Oya, Türkiye).

The importance of establishing robust decision-making frameworks cannot be overstated. Such frameworks serve as foundational structures that delineate the processes, standards, and protocols for AI deployment within public sector organizations. They provide a systematic approach to evaluating the implications of AI technologies, facilitating informed decision-making that considers both the potential benefits and the associated risks. By incorporating diverse stakeholder perspectives, including those of citizens, public servants, and ethicists, these frameworks can foster a more inclusive and participatory approach to governance.

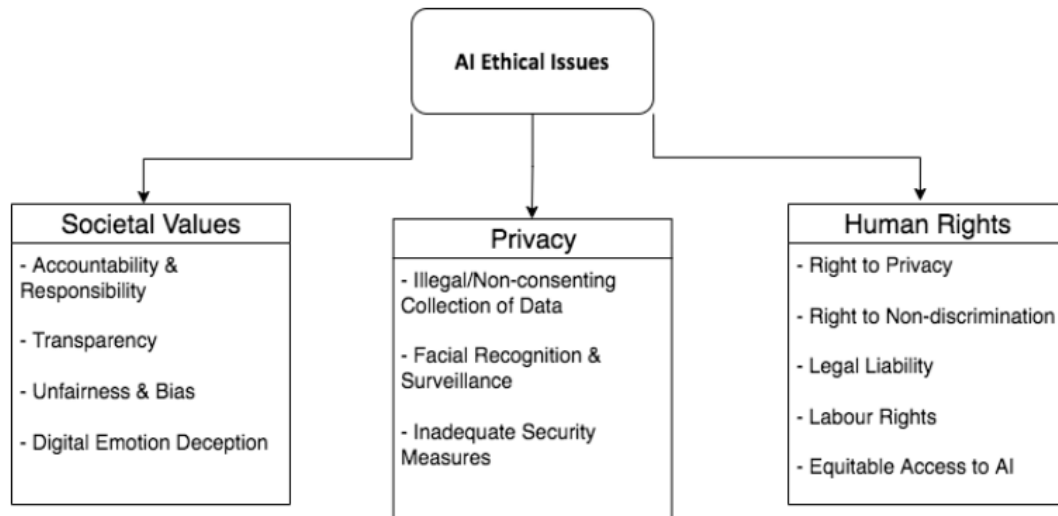
Central to the ethical implementation of AI are the principles of transparency, accountability, and public interest. Transparency is critical in ensuring that AI systems operate in an understandable and accessible manner. Public sector organizations must strive to demystify AI algorithms and decision-making processes, enabling citizens to comprehend how their data is utilized and how decisions affecting their lives are made. This transparency not only builds public trust but also empowers citizens to engage meaningfully in governance processes.

Accountability is another vital ethical consideration in the deployment of AI in public administration. As AI systems increasingly influence decision-making, it is imperative to establish clear lines of accountability for the outcomes generated by these technologies. Governance practices involve continuous monitoring of AI systems to ensure they function as intended and remain compliant with ethical standards. This includes regular audits and assessments to identify any biases or errors that may arise post-deployment (Seppälä., et, 2021).

By utilizing AI technologies, the government would be able to operate more efficiently and effectively, better meeting the needs of the citizens (Chatterjee., et, 2018b). Public sector organizations must ensure that there are mechanisms in place to address grievances and rectify any adverse impacts resulting from AI-driven decisions. This includes the development of oversight bodies that can monitor AI applications and assess their compliance with ethical standards and legal frameworks.

The primary ethical concerns associated with AI across various sectors can be categorized into several key dimensions as explained below (Alahmed., et, 2023).

Figure 5. AI Ethical Issues



Societal Values: AI systems can impact societal values by raising issues related to responsibility, accountability, transparency, bias, and fairness. The integration of AI into decision-making processes can lead to a lack of accountability, especially when errors occur, as seen in cases like IBM Watson's incorrect cancer treatment recommendations.

Privacy Considerations: AI technologies often involve the collection and processing of vast amounts of personal data, leading to concerns about unauthorized data collection, consent, and the potential for misuse. Issues such as illegal data scraping, facial recognition, and the use of voice assistants without clear user consent highlight the risks to individual privacy. Effective governance practices include responsible data collection and processing, adherence to regulations like GDPR, and strong information security measures. These practices ensure that data used in AI systems is handled ethically and securely, which is critical for maintaining public trust (Seppälä., et, 2021).

Human Rights Implications: AI can infringe upon fundamental human rights, particularly the right to privacy and non-discrimination. AI systems may perpetuate biases rooted in historical data, leading to discriminatory outcomes in areas like hiring, lending, and healthcare. The lack of accountability in AI decision-making raises complex questions about legal liability when AI systems fail or exhibit bias. Recognizing the significance of ethical

obligations may extend beyond financial considerations to enhance commitment to human rights and other societal ideals, so surpassing mere legal compliance (IEEE, 2021).

Labor Rights and Economic Impact: The advancement of AI poses challenges to labor rights, particularly concerning job displacement and economic security (Interviewee, Mustafa, Türkiye). The potential for automation to replace jobs raises ethical questions about the impact on workers' livelihoods and the need for a balance between technological efficiency and job preservation. Uzun, et (2022) emphasize the role of governments as coordinators and regulators of technological transitions, highlighting the dual nature of AI as both an opportunity for enhance public service delivery and a source of risks, including ethical concerns and job displacement.

Equitable Access to AI: There are concerns about unequal access to AI technologies, which can exacerbate existing inequalities in education and economic opportunity. Ensuring that the benefits of AI are accessible to all, regardless of socioeconomic status, is crucial for promoting fairness and inclusivity.

Bias and Fairness: AI systems can reflect and amplify societal biases, leading to unfair treatment of certain demographic groups. For example, facial recognition technologies may perform poorly on individuals from underrepresented racial or ethnic groups, and algorithms used in criminal justice may disproportionately label certain populations as high risk.

Digital Emotion Deception: The use of AI to simulate human emotions, such as in chatbots or companion robots, can lead to ethical concerns about the authenticity of interactions and the potential for social isolation among vulnerable users.

The ethical concerns surrounding AI are multifaceted and span various sectors, including healthcare, finance, transportation, and social media. These concerns necessitate the development of robust ethical frameworks and enforceable regulations to ensure that AI technologies are implemented responsibly and equitably.

Furthermore, the principle of public interest must be at the forefront of AI implementation strategies. Public sector organizations have a moral obligation to prioritize the well-being of citizens and to ensure that AI technologies serve the common good. This entails conducting thorough impact assessments to evaluate how AI applications may affect various

demographic groups, particularly marginalized communities that may be disproportionately impacted by automated decision-making processes. By aligning AI initiatives with the public interest, governments can mitigate potential harms and promote equitable outcomes in service delivery.

On the other hand, Aghese., et (2023) explained the main challenges associated with the ethical use of AI whereas these challenges requires interdisciplinary collaboration among researchers, policymakers, industry leaders, and civil society to develop ethical frameworks, governance practices, and design principles that prioritize human dignity, welfare, and sustainability.

Understanding and Defining Ethics: There is a lack of clarity regarding what constitutes the ethics of AI as Efe (2022) addresses the ethical and governance challenges that arise from AI implementations. Discussions often focus on ethical dilemmas rather than how AI technologies can be designed and used to enhance human welfare and quality of life.

Bias and Inequality: AI systems can perpetuate social biases due to the data used for training and the programming choices made during development. These biases may relate to gender, ethnicity, and other factors, potentially affecting equality of opportunity.

Algorithmic Governance and Control: The increasing reliance on algorithmic technologies raises concerns about their potential to destabilize democratic processes and lead to surveillance societies, where individuals are constantly monitored and scored based on their behavior.

Misuse and Unintended Consequences: AI systems can be misused, leading to deliberate or unintentional harm to individuals, society, or the environment. This includes poorly considered designs that do not account for ethical implications.

Complexity of AI Systems: The complexity of AI makes it difficult to identify biases and develop effective "debasing" algorithms. This complexity also complicates the governance and regulation of AI technologies.

Societal Impact and Human-Centric Design: There is a need to ensure that AI adoption maintains or improves the quality of life for citizens. This requires a focus on human-centric design and the ethical implications of AI applications in everyday life.

Transparency and Public Engagement: There is a challenge in increasing transparency regarding AI use and fostering informed public debate. Engaging citizens and stakeholders in discussions about AI ethics is crucial for building trust and understanding.

Future Implications: As AI technologies evolve, there are concerns about their long-term impacts on society, including the potential for significant changes in employment, wealth distribution, and the very nature of human interaction with technology.

In conclusion, the establishment of rigorous frameworks for ethical AI implementation is essential for navigating the complexities and challenges associated with the integration of AI in public administration. By emphasizing transparency, accountability, and public interest, these frameworks can guide public sector organizations in harnessing the transformative potential of AI while upholding democratic values and fostering public trust.

2.5 Impact of AI on Public Administration Functions

The integration of Artificial Intelligence (AI) into public administration is reshaping various functions, enhancing operational efficiency, and improving service delivery. This section examines two critical areas where AI is making a significant impact: predictive analytics and decision-making, as well as citizen engagement and communication.

2.5.1 Predictive Analytics and Decision-Making

One of the most transformative applications of AI in public administration is the use of predictive analytics for data analysis and resource optimization. Predictive analytics leverages AI algorithms and machine learning techniques to analyze vast datasets, identify patterns, and forecast future trends. This capability is particularly valuable in public administration, where decision-makers are often tasked with allocating limited resources to meet the diverse needs of the population.

AI algorithms can process and analyze data from various sources, including demographic information, historical trends, and real-time data inputs. By employing sophisticated statistical models, these algorithms can generate insights that inform strategic planning and

resource allocation. For instance, in the realm of public health, predictive analytics can be utilized to forecast disease outbreaks, enabling health authorities to allocate resources effectively and implement preventive measures in a timely manner. Similarly, in urban planning, AI-driven analytics can assist in predicting traffic patterns, allowing transportation agencies to optimize routes and improve overall traffic management.

Moreover, the application of predictive analytics extends to enhancing the efficiency of public service delivery. By analyzing data related to service usage and demand, public administrators can identify areas where services may be underutilized or overburdened. This information can guide the reallocation of resources, ensuring that public services are responsive to the evolving needs of citizens. The advent of AI technology, especially predictive analytics, has initiated a paradigm change, facilitating more advanced analysis of extensive datasets and yielding profound insights into future patterns and possible disruptions (Chang, Kauffman, & Kwon, 2014; Farayola et al., 2024; Xu et al., 2021). Ultimately, the integration of AI-driven predictive analytics fosters a more data-informed approach to decision-making, enhancing the effectiveness and responsiveness of public administration.

2.5.2 Citizen Engagement and Communication

Another significant impact of AI on public administration is observed in the realm of citizen engagement and communication. AI-powered chatbots and virtual assistants are revolutionizing the way public services are delivered, enhancing accessibility and responsiveness for citizens. These technologies enable government agencies to provide real-time assistance, answering inquiries and guiding citizens through complex administrative processes.

Chatbots, powered by natural language processing (NLP) algorithms, can engage with citizens in a conversational manner, providing immediate responses to frequently asked questions and facilitating access to information. This not only reduces wait times for citizens seeking assistance but also alleviates the workload of public servants, allowing them to focus on more complex tasks that require human intervention. For example, a chatbot deployed by a municipal government can assist residents in navigating services such as permit applications, tax inquiries, and public health resources, thereby streamlining the interaction between citizens and government. Valle-Cruz., et (2019) believe that artificial intelligence

(AI) holds promise for the fields of public health, climate change policy, public management, decision-making, disaster prevention and response, enhanced citizen-government relations, service personalization, interoperability, big data analysis, anomaly and pattern detection, and real-time simulation and dynamic modeling to generate novel solutions.

Furthermore, virtual assistants can enhance citizen engagement by providing personalized experiences based on user preferences and historical interactions. By analyzing data from previous interactions, these AI systems can tailor responses and recommendations, fostering a more engaging and user-centric approach to public service delivery. This personalization not only improves the overall citizen experience but also encourages greater participation in governance processes.

In conclusion, the impact of AI on public administration functions is profound, particularly in the areas of predictive analytics and citizen engagement. The use of AI algorithms for data analysis and resource optimization empowers public administrators to make informed decisions that enhance service delivery and operational efficiency. Simultaneously, AI-powered chatbots and virtual assistants are transforming citizen communication, making public services more accessible and responsive. As public sector organizations continue to embrace AI technologies, it is essential to consider the ethical implications and governance frameworks that will guide their implementation, ensuring that these advancements serve the public interest.

2.6 Case Studies of AI Applications in Public Administration

This section explores the implementation of Artificial Intelligence (AI) in public administration within the United Arab Emirates (UAE) and Türkiye, focusing on three key areas: public health systems, traffic management, and document management. Each case study highlights the innovative applications of AI technologies and their impact on enhancing public services.

Figure 6. Areas of Public Administration

AREAS OF PUBLIC ADMINISTRATION		
	BENEFITS	CHALLENGES
Health	-Improved resource allocation through predictive analytics. -Enhanced disease outbreak prediction and management. -Personalized patient care through AI-driven insights.	-Potential job displacement for healthcare workers -Ethical concerns regarding data privacy and security. -Risk of bias in AI algorithms affecting patient treatment.
Transportation	-Optimized traffic management through real-time data analysis. -Enhanced public transportation efficiency with predictive analytics. -Improved safety through AI monitoring systems.	-High implementation costs for AI systems. -Dependence on data quality and accuracy. -Potential cybersecurity risks associated with connected systems.
Citizen Services	-Increased accessibility and responsiveness via AI chatbots and virtual assistants. -Streamlined administrative processes for quicker service delivery. -Enhanced citizen engagement through personalized communication.	-Concerns over transparency and accountability in AI decision-making. -Risk of excluding marginalized groups if AI systems are not designed inclusively. -Potential for data misuse and privacy violations.

2.6.1 AI in Public Health Systems

Resource Allocation and Disease Outbreak Prediction

Generally, the Gulf Cooperation Council (GCC) countries, particularly Qatar, Saudi Arabia (KSA), and the United Arab Emirates (UAE), have emerged as pioneers in the regulation of artificial intelligence (AI) in healthcare, establishing frameworks that are noteworthy on a global scale. While the European Union and the United States have received significant attention for their regulatory advancements, the proactive measures taken by these Gulf nations have largely gone unnoticed. In 2023, the Global AI Index ranked the UAE, KSA, and Qatar as the top Arab nations in terms of investment, innovation, and implementation of AI technologies. Each country has developed unique governance structures to oversee AI in

healthcare, including dedicated ministries and authorities, such as the UAE's Minister of State of Artificial Intelligence and KSA's Saudi Data and AI Authority².

In the UAE, the integration of AI in public health systems has been pivotal in enhancing healthcare delivery and resource management. The Dubai Health Authority (DHA) has implemented AI-driven predictive analytics to forecast disease outbreaks and optimize resource allocation. DHA oversees the healthcare sector in Dubai, designing policies, strategies, and standards for public and private healthcare facilities. It manages health insurance, investment, and tourism services, promoting health economic growth and contributing to Dubai's macroeconomic indicators. DHA also sets the Medical Education Strategy and regulates medical education, clinical research, and trials. By analyzing historical health data, demographic information, and environmental factors, the DHA can identify potential health risks and allocate medical resources effectively. For instance, during the COVID-19 pandemic, AI models were utilized to predict infection trends, enabling the government to deploy healthcare resources strategically and implement timely public health interventions.

Similarly, Türkiye has also embraced AI in its public health systems. The Turkish Ministry of Health has initiated projects that leverage AI for disease surveillance and outbreak prediction. By utilizing machine learning algorithms to analyze data from hospitals, laboratories, and public health records, the ministry can identify patterns and predict potential outbreaks. This proactive approach allows for better preparedness and resource allocation, ultimately improving healthcare outcomes for citizens.

² 'The Global AI Index' (Tortoise, 28 June 2023) <[https:// www .tortoisemedia .com/ intelligence/global -ai/](https://www.tortoisemedia.com/intelligence/global-ai/) > accessed 30 April 2024; for a comparison of legal developments in the US and EU, see, Barry Solaiman, 'Addressing Access with Artificial Intelligence: Overcoming the Limitations of Deep Learning to Broaden Remote Care Today' (2020) 51 The University of Memphis Law Review 1103, 1117–41.

2.6.2 AI in Traffic Management

Predictive Analytics for Optimizing Public Transportation

In the UAE, traffic management has seen significant advancements through the application of AI technologies. The Roads and Transport Authority (RTA) in Dubai has implemented AI-powered predictive analytics to optimize public transportation systems. By analyzing real-time traffic data, historical patterns, and commuter behavior, the RTA can forecast traffic congestion and adjust public transport routes accordingly. This not only enhances the efficiency of public transportation but also reduces travel times for commuters, contributing to a more sustainable urban environment.

Türkiye has also made strides in utilizing AI for traffic management. The Istanbul Metropolitan Municipality has developed an AI-based traffic management system that employs predictive analytics to monitor and manage traffic flow. By analyzing data from traffic cameras, sensors, and GPS devices, the system can anticipate congestion and provide real-time updates to drivers and public transport operators. This initiative aims to improve the overall efficiency of the transportation network and enhance the quality of life for residents.

2.6.3 AI in Document Management

Enhancements in Data Organization and Retrieval

In the UAE, the adoption of AI in document management has transformed how government agencies handle and retrieve information. The UAE government has implemented AI-driven systems that utilize Natural Language Processing (NLP) and machine learning algorithms to categorize and organize vast amounts of data. Cognitive engagement utilizes (NLP), a subfield of AI, enabling technologies to interact with humans (Davenport & Ronanki, 2018; Schatsky, Muraskin, & Gurumurthy, 2015). This technology enables government entities to streamline document retrieval processes, making it easier for public servants to access critical information quickly. Mehr (2017) suggests that AI technologies will be capable of answering citizens' questions and handling the necessary documents. For example, the Ministry of

Interior has adopted AI solutions to enhance the organization of legal documents and improve the efficiency of administrative processes.

In Türkiye, the government has also recognized the importance of AI in document management. The Turkish government has initiated projects aimed at digitizing and organizing public records using AI technologies. By employing machine learning algorithms to analyze and categorize documents, government agencies can improve data accessibility and retrieval. This initiative not only enhances operational efficiency but also promotes transparency and accountability within public administration. Digital Türkiye aims to enhance productivity and global competitiveness by utilizing digital technology, products, and services in social, economic, and public activities, and generating value from data (Digital Transformation Office, 2021).

2.6.4 AI in Education

Development in the Educational Sector

In both the United Arab Emirates (UAE) and Türkiye, the integration of Artificial Intelligence (AI) in the educational sector is transforming teaching and learning processes, enhancing educational outcomes, and preparing students for a technology-driven future.

The UAE has made significant strides in incorporating AI into its educational framework (UAE Vision 2021, 2018). The Ministry of Education has launched several initiatives aimed at integrating AI technologies into classrooms and educational institutions. One notable project is the "Smart Learning" initiative, which utilizes AI to create personalized learning experiences for students. AI systems can customize educational content based on the analysis of individual learning habits, preferences, and performance data, in order to cater to the specific requirements of each learner. This individualized approach not only amplifies student involvement but also optimizes learning results by enabling students to advance at their own speed.

Figure 7. Phases of the UAE Government's Technology Shift



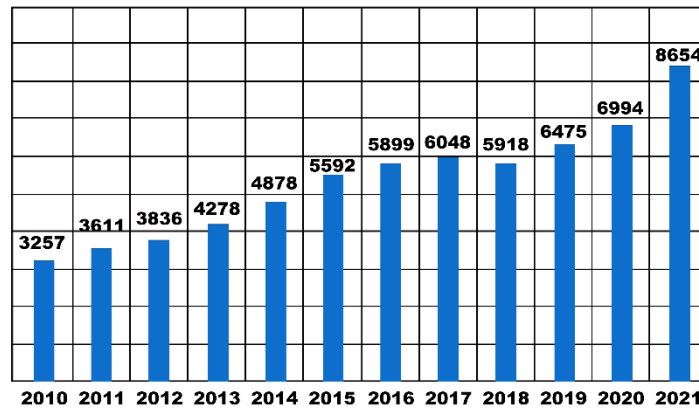
Additionally, AI-powered tools such as virtual tutors and chatbots are being implemented in UAE schools to provide students with immediate assistance and support. These tools can answer questions, provide explanations, and offer additional resources, thereby enhancing the learning experience. The UAE's commitment to fostering innovation in education is further exemplified by the establishment of the Mohammed bin Rashid Innovation Fund, which supports educational technology startups focused on developing AI solutions for the classroom.

In Türkiye, the integration of AI in education is also gaining momentum. The Turkish Ministry of National Education has initiated various projects aimed at leveraging AI to enhance educational practices. An important advancement is the integration of AI-powered learning management systems that provide customized learning experiences for students.

These systems analyze student performance data and learning behaviors to provide tailored educational resources and recommendations, helping educators identify areas where students may need additional support.

Moreover, Türkiye has invested in AI research and development within its universities, fostering collaboration between academia and the tech industry. This collaboration aims to create innovative AI applications that can be utilized in educational settings. For instance, several Turkish universities are developing AI-based platforms that enable adaptive learning, allowing students to engage with content that aligns with their individual learning styles and paces.

Figure 8. Turkish Scientific Publications on Artificial Intelligence
Source: OECD.AI



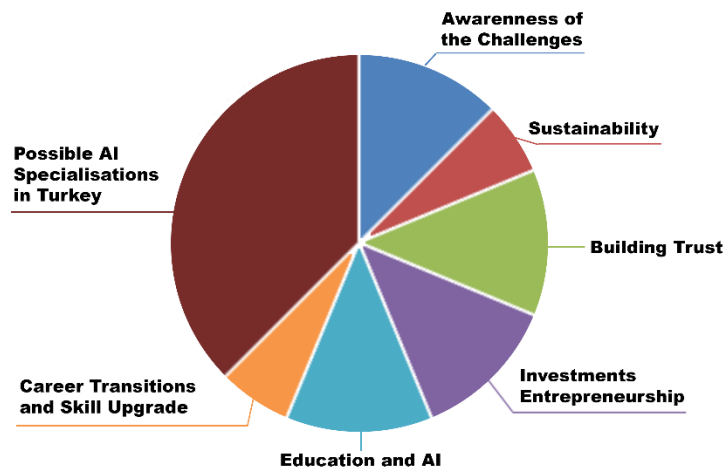
The figures on the chart show a consistent upward trend between 2010 and 2021. Values began at 3,257 in 2010 and increased annually to 8,654 by 2021. The growth is steady, with some years showing significant rises, especially in 2020 and 2021. Over the course of the 11-year period, the pattern shows a generally positive increasing tendency (Can, 2022).

Furthermore, Türkiye is exploring the use of AI in teacher training programs. By utilizing AI technologies to analyze teaching methods and student interactions, educators can receive feedback and insights that help improve their instructional practices. This data-driven approach not only enhances the quality of teaching but also contributes to the professional development of educators.

Key themes pertaining to the advancement and incorporation of artificial intelligence (AI) in Türkiye are depicted in the pie chart by Tonka., et, (2021b). The principal sections consist of:

1. Possible AI Specializations in Türkiye: The prospective areas of concentration for AI development in Türkiye are highlighted in this section.
2. Career Transitions and Skill Upgrade: Stressing the need to upgrade skills and adapt the workforce to the demands of a changing labor market impacted by AI.
3. Education and AI: This point emphasizes how crucial educational programs are to promoting AI knowledge and proficiency among the general public.
4. Building Trust: This section addresses the need for stakeholders, including the general public and companies, to develop trust in AI technologies.
5. Sustainability: Showing the dedication to making sure that developments in AI are in line with environmentally friendly policies and sustainable practices.
6. Investments and Entrepreneurship: Stressing the contribution of monetary investments and business endeavors to AI innovation.
7. Awareness of the Challenges: Being aware of the different obstacles—technical, societal, and ethical—that come with implementing AI.

Figure 9. Key Themes Related to the Development and Integration of Artificial Intelligence (AI) in Türkiye



The case studies of AI applications in public administration in the UAE and Türkiye illustrate the transformative potential of AI technologies across various sectors. In public health systems, AI enhances resource allocation and disease outbreak prediction, while in traffic

management, predictive analytics optimize public transportation. Additionally, AI-driven document management systems improve data organization and retrieval, contributing to more efficient and transparent governance. As both countries continue to embrace AI, it is essential to ensure that these advancements align with ethical principles and serve the public interest.

2.6.5 AI in Labor Force

2.6.5.1 Transforming Employment Strategies

The integration of Artificial Intelligence (AI) into labor markets has emerged as a transformative force, reshaping employment strategies across the globe. This phenomenon is particularly evident in the United Arab Emirates (UAE) and Türkiye, two nations that are actively embracing AI technologies to enhance their economic competitiveness and workforce capabilities. This analysis explores the implications of AI on labor force changes and employment strategies within these two distinct contexts. Bresnahan., et (2002) highlighted the constant evolution of labor market skills to adapt to current technological advancements.

2.6.5.2 The United Arab Emirates: A Vision for AI-Driven Employment

According to Autor (2015), automation has helped to create, replace, and enhance occupations over time. Autor (2014), for example, noted that the number of US workers in the agriculture sector fell from 41% in 1900 to 2% in 2000 due to the introduction of automated technology and other technologies.

The UAE has positioned itself as a regional leader in AI adoption, driven by its ambitious national strategies such as the UAE Artificial Intelligence Strategy 2031. This initiative aims to position the UAE as a global hub for AI, fostering innovation and enhancing productivity across various sectors. The government's proactive approach includes significant investments in AI research and development, as well as the establishment of regulatory frameworks that facilitate the integration of AI technologies into the workforce.

In the context of employment strategies, the UAE is witnessing a paradigm shift characterized by the automation of routine tasks and the emergence of new job categories that require advanced technological skills. For instance, sectors such as healthcare, finance, and logistics are increasingly leveraging AI to optimize operations, leading to a demand for skilled professionals who can manage and interpret AI-driven data. Consequently, the UAE's educational institutions are adapting their curricula to equip the workforce with the necessary skills to thrive in an AI-enhanced labor market.

Moreover, the UAE's focus on AI is also reflected in its efforts to promote entrepreneurship and innovation. Initiatives such as the Dubai Future Accelerators program encourage startups to develop AI solutions that address real-world challenges, thereby creating new employment opportunities and fostering a culture of innovation. This strategic alignment between government policy and labor market needs underscores the UAE's commitment to harnessing AI as a catalyst for economic growth and employment generation.

2.6.5.3 Türkiye: Navigating AI Integration in Employment Strategies

In contrast, Türkiye's approach to AI integration within its labor market is shaped by its unique socio-economic context and developmental challenges. The Turkish government has recognized the importance of AI in enhancing productivity and competitiveness, as articulated in the National Artificial Intelligence Strategy. However, the implementation of AI technologies in Türkiye faces hurdles such as infrastructural limitations, a skills gap, and varying levels of digital literacy among the workforce. In this vein, Brynjolfsson and McAfee (2014) contend that a "Great Restructuring" that is increasingly affecting jobs and skills is the primary cause of the nation's present employment issues.

The impact of AI on employment strategies in Türkiye is multifaceted. While AI has the potential to streamline operations and reduce costs in sectors such as manufacturing and agriculture, it also raises concerns about job displacement, particularly for low-skilled workers. In this vein, Efe (2022) argues that many existing job classifications and career specialties are likely to become obsolete, necessitating the development of new competencies among public administrators. Furthermore, governments, particularly in developed nations, should urgently rethink their service delivery models and enhance the skill sets of public servants to leverage AI effectively. The Turkish labor market, which is characterized by a

significant informal sector, may experience heightened vulnerabilities as automation becomes more prevalent. Consequently, there is an urgent need for policies that address the potential negative impacts of AI on employment, including retraining programs and social safety nets for affected workers.

Furthermore, Türkiye's educational institutions are increasingly recognizing the need to incorporate AI-related skills into their curricula. Collaborative efforts between the government, academia, and the private sector are essential to bridge the skills gap and prepare the workforce for the demands of an AI-driven economy. Initiatives aimed at fostering STEM education and promoting digital literacy are critical components of Türkiye's strategy to leverage AI for sustainable employment growth.

2.6.5.4 Comparative Insights and Future Directions

The contrasting approaches of the UAE and Türkiye towards AI in labor force changes highlight the importance of contextual factors in shaping employment strategies. The UAE's proactive and well-resourced initiatives enable it to rapidly adapt to the demands of an AI-driven economy, while Türkiye's challenges necessitate a more cautious and inclusive approach to AI integration. In this framework, AI products not only mean the creation of whole new industries or a significant expansion of already existing ones, but they also mean the creation of entirely new job opportunities in fields like data processing, transactional processes, customization, remote collaboration, and so forth (Damioli., et, 2022).

As both nations continue to navigate the complexities of AI adoption, it is imperative to prioritize policies that promote workforce resilience and adaptability. This includes investing in education and training programs that equip individuals with the skills needed to thrive in an evolving labor market. Additionally, fostering public-private partnerships can facilitate knowledge transfer and innovation, ultimately enhancing the effectiveness of employment strategies in both countries.

In conclusion, the integration of AI into labor markets presents both opportunities and challenges for the UAE and Türkiye. By adopting tailored employment strategies that

consider their unique socio-economic contexts, both nations can harness the potential of AI to drive economic growth and improve workforce outcomes.

2.7 Challenges and Risks of AI Integration: A Comparative Analysis of the United Arab Emirates and Türkiye

The integration of Artificial Intelligence (AI) into public administration presents numerous challenges and risks that both the United Arab Emirates (UAE) and Türkiye must navigate. As these nations strive to harness the transformative potential of AI, it is essential to critically examine the ethical, economic, and privacy-related implications of such technologies.

2.7.1 Ethical and Accountability Concerns

One of the foremost challenges in AI integration is addressing biases and ensuring fairness within AI systems. Both the UAE and Türkiye face the risk of perpetuating existing societal biases through AI algorithms, which are often trained on historical data that may reflect discriminatory practices. In the UAE, where a diverse population interacts with government services, it is crucial to develop AI systems that are inclusive and equitable, ensuring that all citizens receive fair treatment. Similarly, Türkiye must confront the potential for bias in its e-Government Gateway and other AI applications, as these technologies could inadvertently reinforce stereotypes or marginalize certain groups. Establishing robust ethical guidelines and accountability mechanisms is vital for both nations to mitigate these risks and foster public trust in AI-driven governance.

2.7.2 Job Displacement and Economic Impact

The potential effects of automation on public sector employment represent another significant challenge associated with AI integration. In the UAE, the government's ambitious AI strategy aims to enhance efficiency and service delivery; however, this may lead to job displacement for public sector employees engaged in routine administrative tasks. The transition to automated systems necessitates a careful assessment of the workforce's future, as displaced workers may face challenges in finding new employment opportunities. Similarly, Türkiye's efforts to digitize public services through AI could result in significant shifts in labor dynamics, prompting concerns about the adequacy of retraining programs and support for affected workers. Yet, Şen (2024) reveals in his study on public employees in

Kastamonu, Türkiye that public employees exhibit a moderate high level of anxiety regarding AI, particularly concerning potential misuse, operational failures, and associated security risks.

Both nations must proactively address these economic impacts to ensure a smooth transition to an AI-enhanced public administration.

2.7.3 Privacy and Security Risks

Concerns regarding data collection and citizen privacy are paramount in the discourse surrounding AI integration. In the UAE, the extensive use of AI in public services raises questions about the security of personal data and the potential for misuse. The government must implement stringent data protection measures to safeguard citizen information and maintain public confidence in digital services. For instant, the UAE has enacted a Personal Data Protection Law (PDPL)³, allowing for certain exceptions in healthcare contexts. Another relevant law in the UAE is the Federal Law Concerning the Use of Information and Communication Technology (ICT) in Health Fields⁴.

In Türkiye, the e-Government Gateway's reliance on vast amounts of personal data similarly necessitates robust privacy protections. As both nations advance their digital government initiatives, prioritizing data security and privacy will be essential to mitigate risks and uphold citizens' rights.

2.8 The Need for Caution in AI Adoption: A Comparative Examination of the United Arab Emirates and Türkiye

As the United Arab Emirates (UAE) and Türkiye advance their respective agendas for integrating Artificial Intelligence (AI) into public administration, it is imperative to approach this technological adoption with caution. The rapid pace of innovation in AI presents significant opportunities for enhancing governance and public service delivery; however, it also necessitates a careful consideration of ethical implications and the need for inclusive governance frameworks.

³ Federal Decree Law No. 45 of 2021 regarding the Protection of Personal Data (UAE).

⁴ Federal Law No. (2) of 2019

2.8.1 Balancing Innovation with Ethical Considerations

In both the UAE and Türkiye, the drive for innovation in AI must be tempered by a commitment to ethical principles that safeguard public interests. The UAE has positioned itself as a leader in AI adoption, with initiatives such as the UAE Strategy for Artificial Intelligence aimed at transforming various sectors, including government services. However, the potential for AI systems to perpetuate biases, infringe on privacy, and undermine accountability raises critical ethical concerns. It is essential for the UAE to establish robust ethical guidelines that govern the development and deployment of AI technologies, ensuring that they align with the values of fairness, transparency, and respect for human rights. Mentioning the ethical vein, the integration of artificial intelligence (AI) within the socio-cultural and religious frameworks of Islamic nations, particularly in the Kingdom of Saudi Arabia (KSA) and the United Arab Emirates (UAE), presents a unique intersection of technology and ethics. Gorian and Osman (2024) examine that the synthesis of AI and Islamic ethics is crucial as both nations strive to become global leaders in technological innovation while adhering to their cultural and religious values. Thus, the ethical frameworks governing AI in these countries are significantly influenced by Islamic principles, which emphasize privacy, justice, and human dignity. Moreover, scholars such as Abdallah (2010) and Masum et al. (2011) have explored the moral implications of technology use within Islamic frameworks, emphasizing the need for ethical guidelines that align with Islamic teachings.

Similarly, Türkiye's efforts to integrate AI into its e-Government initiatives must prioritize ethical considerations. The Turkish government has recognized the importance of ethical AI, as evidenced by its focus on developing policies that address the implications of AI on society. By fostering a culture of ethical awareness among policymakers, technologists, and public administrators, Türkiye can mitigate the risks associated with AI adoption while maximizing its benefits. Both nations must engage in continuous dialogue about the ethical dimensions of AI, ensuring that innovation does not come at the expense of societal values and public trust.

2.8.2 Importance of Stakeholder Engagement and Inclusive Governance

Governance practices also encompass communication strategies that inform stakeholders about how AI systems operate and the ethical considerations involved. Transparent communication builds trust and accountability, allowing users to understand the implications of AI decision (Seppälä., et, 2021).

The successful adoption of AI in public administration in both the UAE and Türkiye hinges on the active engagement of diverse stakeholders in the decision-making process. Stakeholder engagement is critical for identifying potential risks, addressing public concerns, and fostering a sense of ownership among citizens. In the UAE, the government has made strides in promoting public participation through initiatives that encourage citizen feedback on digital services. However, to fully realize the benefits of AI, it is essential to expand these efforts to include a broader range of voices, including marginalized communities and civil society organizations.

In Türkiye, the importance of inclusive governance is equally paramount. The Turkish government must ensure that the voices of various stakeholders—such as citizens, industry experts, and academic institutions—are considered in the formulation of AI policies. By adopting a participatory approach, Türkiye can enhance the legitimacy of its AI initiatives and build public trust in the technologies being implemented. Furthermore, inclusive governance can facilitate the identification of local needs and preferences, allowing for the development of AI solutions that are contextually relevant and socially acceptable.

In conclusion, both the UAE and Türkiye must exercise caution in their AI adoption strategies by balancing innovation with ethical considerations and prioritizing stakeholder engagement and inclusive governance. By doing so, these nations can harness the transformative potential of AI while safeguarding the rights and interests of their citizens, ultimately contributing to more effective and equitable public administration.

2.9 Insights and Future Directions for AI Integration in Public Administration in the United Arab Emirates and Türkiye

The integration of Artificial Intelligence (AI) into public administration represents a significant paradigm shift for both the United Arab Emirates (UAE) and Türkiye, offering

transformative potential for enhancing governance, improving service delivery, and fostering citizen engagement. This conclusion synthesizes the key insights derived from the examination of AI's integration in these two nations and outlines future directions for research and practice in AI governance.

2.9.1 Summary of Key Insights on AI's Integration in Public Administration

The researcher can classify the levels of AI integration in public administration for Türkiye and the UAE according to the levels of AI discussed earlier. Here's a synthesis of their current standings:

2.9.1.1 United Arab Emirates (UAE) Case

Level: Advanced Level - Enhanced Service Delivery and Strategic Level - Transformative Governance

1. Enhanced Service Delivery: The UAE has made significant strides in utilizing AI technologies to improve public service delivery. Initiatives like the "Dubai Now" app and AI-driven chatbots exemplify the UAE's commitment to providing personalized, efficient, and responsive services to citizens. The integration of predictive analytics in public health and traffic management demonstrates the UAE's focus on enhancing operational efficiency and citizen engagement.

2. Transformative Governance: The UAE's national AI strategy aims to position the country as a global leader in AI adoption, reflecting a strategic approach to governance. The government is actively developing frameworks for ethical AI implementation, addressing concerns about bias, accountability, and privacy. This strategic integration of AI into governance practices indicates a commitment to transparency and accountability, aligning with democratic values.

2.9.1.2 Türkiye Case

Level: Intermediate Level - Data-Driven Decision-Making and Advanced Level - Enhanced Service Delivery

1. Data-Driven Decision-Making: Türkiye is in the process of leveraging AI for data analysis and predictive analytics, particularly in urban planning and public health. The Turkish

government's initiatives, such as the "Smart Cities" project and the e-Government Gateway, indicate a growing emphasis on using data-driven insights to inform decision-making processes.

2. Enhanced Service Delivery: Türkiye has also implemented AI technologies to improve service delivery, as seen in its efforts to streamline public services through the e-Government Gateway. However, the integration is still evolving, and there are challenges related to infrastructure and digital literacy that need to be addressed to fully realize the potential of AI in public administration.

The UAE has reached an Advanced Level of AI integration characterized by enhanced service delivery and transformative governance. In contrast, Türkiye is at an Intermediate Level, focusing on data-driven decision-making and gradually enhancing service delivery through AI technologies. Both countries are actively working towards improving their AI capabilities, but the UAE is currently more advanced in its implementation and strategic integration of AI in public administration.

The analysis reveals several critical insights regarding the integration of AI in public administration within the UAE and Türkiye. Firstly, both nations demonstrate a strong commitment to leveraging AI technologies to enhance operational efficiency and improve public services. The UAE's proactive approach, exemplified by its national AI strategy, underscores its ambition to position itself as a global leader in AI adoption. Conversely, Türkiye's focus on e-Government initiatives highlights its intent to modernize public administration through digital transformation.

Secondly, the ethical considerations surrounding AI deployment have emerged as a paramount concern in both contexts. The potential for AI systems to introduce biases, compromise privacy, and diminish accountability necessitates the establishment of comprehensive ethical frameworks. Both the UAE and Türkiye must prioritize the development of guidelines that ensure AI technologies are implemented in alignment with democratic values and human rights.

Lastly, stakeholder engagement and inclusive governance are essential components for the successful integration of AI in public administration. The involvement of diverse

stakeholders, including citizens, civil society organizations, and industry experts, is crucial for fostering public trust and ensuring that AI solutions are contextually relevant and socially acceptable. Both nations must enhance their efforts to promote participatory governance, thereby empowering citizens to contribute to the decision-making processes that shape AI policies and practices.

2.9.2 Future Directions for Research and Practice in AI Governance

Looking ahead, several avenues for future research and practice in AI governance emerge from this analysis. Firstly, there is a pressing need for empirical studies that assess the impact of AI integration on public administration outcomes in the UAE and Türkiye. Research should focus on evaluating the effectiveness of AI applications in improving service delivery, enhancing citizen engagement, and promoting transparency and accountability.

Secondly, further exploration of ethical frameworks for AI governance is essential. Future research should investigate best practices for mitigating biases in AI systems, ensuring data privacy, and establishing accountability mechanisms. Comparative studies that examine the ethical approaches adopted by different countries can provide valuable insights for the UAE and Türkiye as they develop their own governance frameworks.

Additionally, the role of technology in facilitating stakeholder engagement and inclusive governance warrants further investigation. Research should explore innovative methods for involving citizens in AI policy formulation and implementation, such as participatory design processes and collaborative governance models. Understanding how technology can enhance public participation will be critical for building trust and legitimacy in AI initiatives.

In summary, the integration of AI in public administration presents both opportunities and challenges for the UAE and Türkiye. By prioritizing ethical considerations, fostering stakeholder engagement, and conducting rigorous research, these nations can navigate the complexities of AI governance and harness its transformative potential to enhance public administration for the benefit of their citizens. This chapter has provided a comprehensive exploration of the integration of Artificial Intelligence (AI) in public administration within the contexts of the United Arab Emirates (UAE) and Türkiye. As both nations navigate the complexities of the fourth industrial revolution, characterized by rapid technological

advancements, the adoption of AI emerges as a transformative force reshaping governance, service delivery, and citizen engagement.

The analysis reveals that AI holds significant potential to enhance operational efficiency and effectiveness in public services. By automating routine tasks and leveraging predictive analytics, public sector organizations can optimize decision-making processes, allocate resources more effectively, and improve the overall citizen experience. The case studies presented illustrate practical applications of AI in diverse sectors, including public health, traffic management, and education, highlighting the innovative strategies employed by both the UAE and Türkiye to harness AI technologies.

However, the integration of AI also raises critical ethical considerations that must be addressed to ensure that these technologies align with democratic values and serve the public interest. Issues of bias, accountability, and privacy are paramount, necessitating the development of robust ethical frameworks and governance structures. Both nations must prioritize transparency and stakeholder engagement to foster public trust and ensure that AI solutions are inclusive and equitable.

Furthermore, the chapter emphasizes the importance of a cautious approach to AI adoption. While the potential benefits are substantial, the risks associated with job displacement, privacy violations, and the exacerbation of existing inequalities cannot be overlooked. Policymakers in both the UAE and Türkiye must engage in continuous dialogue about the ethical dimensions of AI, ensuring that innovation does not come at the expense of societal values.

In conclusion, the integration of AI in public administration presents both opportunities and challenges for the UAE and Türkiye. By prioritizing ethical considerations, fostering stakeholder engagement, and conducting rigorous research, these nations can navigate the complexities of AI governance. The insights derived from this chapter underscore the need for a balanced approach that leverages the transformative potential of AI while safeguarding the rights and interests of citizens, ultimately contributing to more effective and equitable public administration. Future research should focus on empirical assessments of AI's impact on governance outcomes and the development of best practices for ethical AI

implementation, ensuring that both nations can fully realize the benefits of this technological advancement.

CHAPTER III: METHODOLOGY

3.1 Research Design and Justification for Qualitative Approach

This study employs a qualitative research design, using semi-structured interviews and document analysis to examine the adoption of Artificial Intelligence (AI) in public administration in Türkiye and the UAE. The choice of a qualitative approach is driven by the need to explore complex, context-dependent factors influencing AI governance, including policy formulation, implementation challenges, and ethical considerations. Unlike quantitative methods, which focus on numerical data and statistical correlations, qualitative research allows for a deeper understanding of subjective perceptions, institutional dynamics, and policy implications related to AI adoption in governance.

A mixed-methods approach was considered but ultimately not selected due to the exploratory nature of the study. Given that AI adoption in public administration is an evolving and policy-driven process, qualitative research is better suited to capture the nuances of decision-making, bureaucratic resistance, and ethical concerns that may not be easily quantified. Moreover, the study seeks to assess expert perspectives rather than test predefined hypotheses, further justifying the qualitative design.

3.2 Data Analysis Approach

Interview responses were analyzed using thematic analysis, a widely used qualitative method for identifying, coding, and interpreting key themes in textual data (Braun & Clarke, 2006). Thematic analysis was chosen due to its flexibility in capturing both predefined themes (e.g., policy implementation, ethical AI governance, public trust) and emergent themes identified during interviews. The process involved:

1. Familiarization with Data: Transcribing interview responses and reviewing policy documents.
2. Initial Coding: Identifying recurrent phrases, concepts, and ideas related to AI adoption challenges and strategies.

3. Theme Identification: Grouping similar codes into overarching themes, such as bureaucratic barriers, regulatory inconsistencies, AI-driven decision-making, and ethical concerns.
4. Review and Refinement: Ensuring that themes accurately reflect participants' insights and aligning findings with existing literature.

This method enables a structured yet interpretative approach to analyzing how government officials perceive AI adoption, providing depth and context that quantitative analysis might overlook.

3.3 Discussion of Research Limitations

While this study provides valuable insights into AI adoption in public administration, several methodological limitations should be acknowledged. First, the study relies on qualitative data, which, while rich in detail, lacks statistical generalizability. The findings represent the perspectives of a specific set of policymakers and AI experts, rather than a broad-based survey of public administration professionals. Second, the evolving nature of AI policies presents a limitation, as government strategies and regulatory frameworks continue to develop. The sample size of 24 participants, while sufficient for qualitative analysis, may not fully represent the entire spectrum of views on AI in public administration in both countries. The geographical limitations—interviews in the UAE conducted via Zoom and in Türkiye face-to-face—may introduce contextual variations in how participants communicated their thoughts. As the study focuses on a comparative analysis of two countries, the findings may not be generalizable to other countries with different governance structures or stages of AI adoption. Finally, potential response bias must be considered, as government officials may provide institutionally favorable perspectives on AI adoption. To mitigate this, the study incorporates policy document analysis to validate interview responses and provide a balanced perspective.

3.4 Data Collection

Data were collected through semi-structured interviews with government officials, AI policymakers, and public sector experts in Türkiye and the UAE. This method was chosen to

gain in-depth insights into the challenges, strategies, and ethical concerns surrounding AI governance. The flexibility of semi-structured interviews allows respondents to provide detailed explanations and real-world experiences, ensuring a richer dataset compared to structured surveys.

To complement interview data, policy documents, AI strategy reports, and government publications were analyzed to provide a contextual foundation for understanding national AI policies. The inclusion of document analysis strengthens the study's validity by enabling triangulation, ensuring that findings are supported by both primary (interviews) and secondary (official documents) sources.

3.4.1 Population, Sample and Sampling Procedures

The research population and sample are fundamental components of any scientific investigation. They have the ability to solve the puzzles that lie within the data. Garg (2016) confirms that researchers must have a thorough understanding of the population and sample to guarantee the validity, reliability, and relevance of their findings. Understanding the population and sample is crucial in research as it helps define interest groups, establish relevance ranges, and draw valid conclusions, making it more feasible, cost-effective, and time-efficient. According to Shringarpure and Xing (2014), the precision and dependability of the results hinge on the quality of the sample and its capacity to reflect the population's traits. Hatcher (2013) defines a population as a well-defined group with shared qualities, while a sample is a representative portion of the population used in research investigations to solve challenges.

3.4.2 Instrumentation

Researchers commonly utilize interviews as a tool to get qualitative data (Rubin & Rubin, 2005). Creswell (2012) asserts that a qualitative interview transpires when a researcher poses generic, open-ended questions to one or more participants and documents their responses. The interview method involves presenting oral-verbal stimuli to change responses, offering various types of interviews to obtain the necessary information.

Kothari (2004) mentions that observation data captures images of people's actions, behaviors, engagements, and interpersonal communications, which are essential components of human experience. Interviews come in three varieties: semi-structured, unstructured, and structured (Rubin & Rubin, 2005). Distinct design methods are necessary for every one of these interview styles. Specifically for this research project, the investigator used a semi-structured interview. Interviews can be classified based on their method of execution and their intended objectives in any qualitative research (Edwards & Holland, 2013). Interviews are broadly categorized based on their role in qualitative research. The three prevalent types of interviews are structured, semi-structured, and unstructured interviews (Edwards & Holland, 2013; Stuckey, 2013; Gill et al., 2008; & Jamshed, 2014).

More flexibility is made possible by semi-structured interviews, giving the interviewer the chance to delve into more themes or responses (Rubin & Rubin, 2005). As a result, the researcher created a semi-structured interview with ten open-ended questions specifically for this research study (see Appendix A).

Data was collected through semi-structured interviews, a method that allows for flexibility while ensuring key topics are covered. This method is particularly appropriate for gathering expert insights and personal perspectives on the subject of AI adoption in the public sector. The interviews allowed for open-ended questions, providing participants the opportunity to elaborate on their experiences and views, while still maintaining focus on the research questions.

A total of **24 interviews** were conducted, with **12 interviews from each country**—Türkiye and the UAE. The interviewees were selected based on their expertise in AI, public

administration, or both, ensuring that the responses would provide valuable insights into the study's key themes.

- **UAE Interviews:** The interviews in the UAE were conducted via Zoom, allowing for ease of communication with professionals based in different regions of the country.
- **Türkiye Interviews:** The interviews in Türkiye were conducted face-to-face, offering a more personal and direct interaction with participants.

Each interview lasted between 25 to 35 minutes, and all participants were informed about the purpose of the research and gave their consent to participate. The interviews were scheduled between January and February 2025 to ensure a balanced sample of perspectives across both countries.

3.5 Instrument Validity and Reliability

In order to verify that the instrument is accurately measuring the intended study outcomes, the researcher must adhere to a generated procedure set. Various techniques are employed in research to guarantee the validity of an instrument. The qualitative aspect of the study's validity was demonstrated by guaranteeing the reliability of its conclusions. The researcher was able to make sure that the instrument questions were in line with the study questions thanks to the advice of the three specialists. To improve the data's accuracy for the qualitative approach, however, the researcher employed a number of techniques. In order to boost credibility and accuracy, the researcher also took as much time as possible during the interview to fully understand the issue (Creswell & Creswell, 1997).

To ensure the validity and reliability of the findings, multiple strategies were employed. Triangulation was achieved by collecting data from two different countries, thus allowing for a more comprehensive comparison of AI adoption in public administration. Additionally, the use of semi-structured interviews allowed participants to express their views in depth, reducing the risk of researcher bias in data collection. Sonix was used for transcription and manual content analysis was employed to identify and interpret recurring patterns and frequencies within the qualitative interview data. Excel and Taguette were imploded to develop tables and charts.

3.6 Ethical Considerations

All participants were informed about the research objectives, confidentiality of their responses, and their right to withdraw from the study at any time. Consent was obtained from each participant before the interview began, and they were assured that their identities would remain anonymous in the final report. All interviews were recorded with the participants' permission.

3.7 Data Collection Procedure

3.7.1 Steps for Qualitative Data Collection

1. Sampling technique: Using a purposive sample design, the researcher selected individuals. The investigator sought to obtain data from six to twelve participants. Those in elite and decision making positions in the UAE and Turkish governments currently made up the attendees. Depending on the preferred technique for each participant, the researcher employed one of the interview methods—phone, Skype, or in-person interview—to collect data.
2. Getting consent and recruiting participants: The researcher got consent from the study participants as well as the Internal Review Board (IRB) of the university.
3. Data sources: To gather the information needed to draw the intended research conclusions, the researcher created a semi-structured interview technique consisting of ten open-ended questions. Due to its ability to elicit in-depth discussion with the interviewers, a semi-structured interview was selected as the preferable method (Rubin & Rubin, 2005). Before the interview, participants received a Word document with the interview protocol typed in it.
4. Data recording: With the participants' consent and authorization, the interviews were audio recorded using a zoom recording feature. The interviews were turned into MP3 files and stored for later transcription and examination. To transcribe the qualitative data recordings, the researcher used the services of currently available transcription providers including

Sonix. Furthermore, the investigator captured information within the interview protocol as a fallback in the event that the digital equipment utilized experienced malfunctions.

3.8 Data Analysis

According to Creswell and Plano (2006), integrative analysis is used in several stages to analyze and interpret qualitative datasets in explanatory sequential thematic design. The analysis of the qualitative data that has been gathered from the interviews. The researcher then combined the datasets to gain a comparative thorough understanding of the outcome.

Various computer-based analytical methods were utilized to assess data. The researcher prepared the data for analysis, explored the data, analyzed the data, and finally interpreted the analysis to draw conclusions using the same techniques for comparative thematic data analysis. As a result, the researcher in this study took into account the following procedures for data analysis and interpretation that Creswell and Plano (2006) recommend:

3.8.1 Transcription

Following the completion of the interviews, the recordings were transcribed using Sonix, an automated transcription software. This tool allowed for accurate and efficient transcription of the interviews, ensuring that all verbal data was captured for analysis.

3.8.2 Coding and Theme Identification

Sonix was used for transcription, manual content analysis was used to identify and interpret recurring patterns in qualitative interview data, and Excel and Taguette were used for table and chart development. The software allowed for systematic identification of recurring patterns in the data and facilitated the grouping of these patterns under broader thematic categories.

The codes were derived from the text and represent specific elements of the participants' responses, such as mentions of AI skills, economic transformation through AI, or ethical concerns. These codes were then grouped into themes, which reflect broader patterns that

emerged across the interviews, such as national AI strategies, transparency in AI systems, and challenges in AI adoption.

Thematic analysis, through the use of codes and themes, allowed for a detailed exploration of the interview data, providing insights into the specific experiences, challenges, and opportunities perceived by participants in both countries.

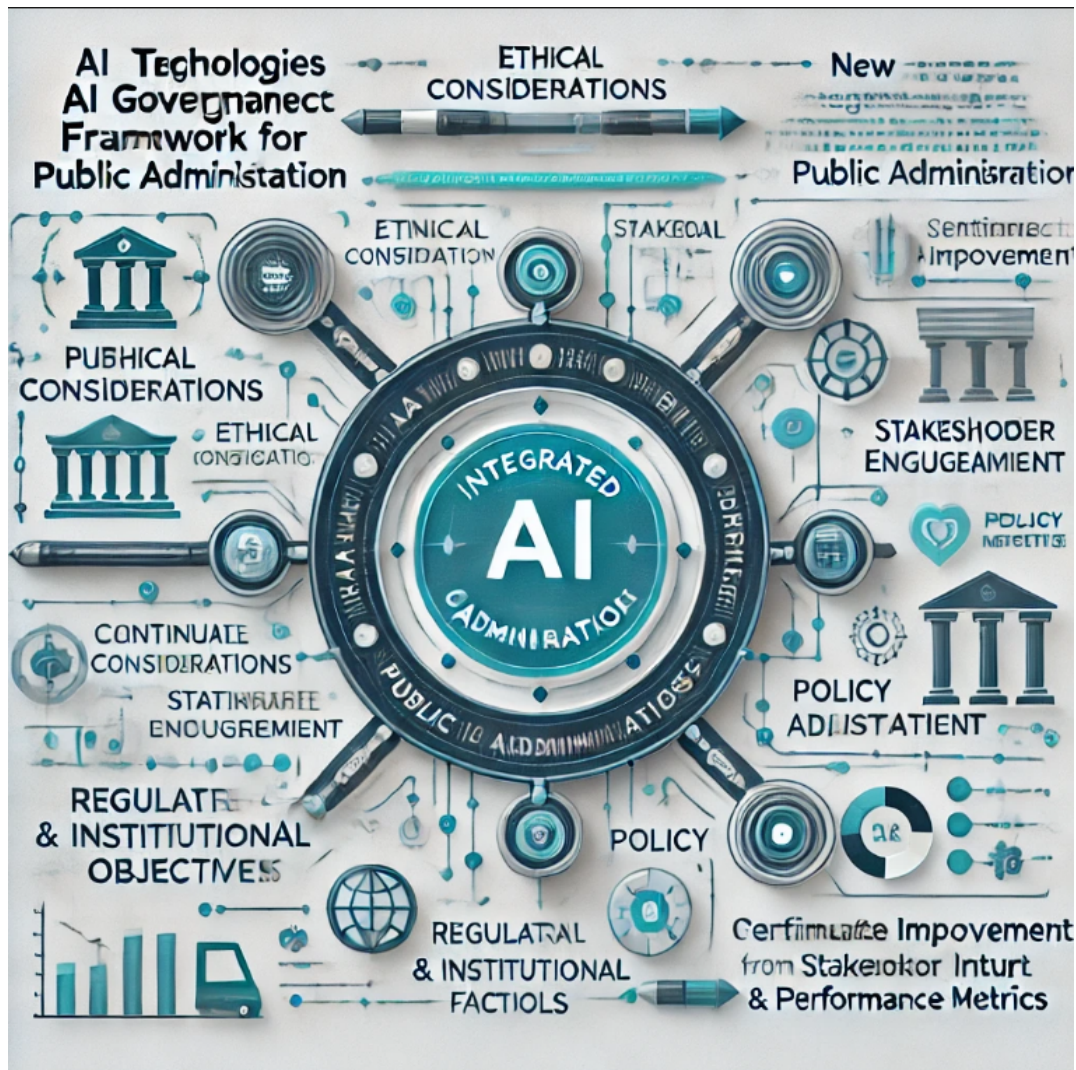
3.8.3 Comparative Analysis

A comparative discourse analysis was conducted to explore the similarities and differences between the two countries regarding their national AI strategies, challenges in AI adoption, and the role of transparency in public administration. The identified themes were analyzed to see how they manifested in each country, allowing for a comparative understanding of AI's impact on the public sector.

3.9 The Model of the Study

3.9.1 Integrated AI Governance Framework for Public Administration Model

The proposed Integrated AI Governance Framework for Public Administration provides a structured approach to understanding the role of artificial intelligence in public sector governance. The model highlights key components that influence AI adoption and effectiveness in administrative processes, ensuring ethical implementation, stakeholder involvement, and continuous adaptation.



3.9.2 Core Components of the Model

1. AI Technologies → Public Administration Objectives

The model begins with AI technologies, which serve as the foundation for achieving public administration objectives. AI is utilized to enhance efficiency, automate processes, and improve decision-making in governance. These technologies directly influence government priorities such as service delivery, policy implementation, and administrative effectiveness.

2. Ethical Considerations → Stakeholder Engagement

Ethical concerns, including transparency, accountability, and fairness, play a crucial role in AI governance. Ethical AI principles influence stakeholder engagement, as

public trust and citizen participation depend on how AI-driven policies are designed and implemented. The involvement of civil society, policymakers, and the private sector ensures that AI governance remains inclusive and responsive to societal needs.

3. **Continuous Improvement ↔ Policy Adaptation**

AI governance is an evolving process that requires ongoing improvements and adjustments in response to technological advancements and societal expectations. Policy adaptation ensures that legal and institutional frameworks remain relevant as AI capabilities expand. The bi-directional relationship between continuous improvement and policy adaptation signifies that policy refinements are informed by performance evaluations and stakeholder feedback.

3.9.3 Enhancements and Feedback Loops in the Model

- **Regulatory & Institutional Factors:** The framework incorporates regulatory oversight and institutional mechanisms that influence both ethical considerations and policy adaptation. Regulations define standards for AI deployment, ensuring compliance with legal and ethical principles, while institutional governance structures provide the mechanisms for enforcement.
- **Performance Metrics:** To measure the effectiveness of AI in public administration, performance metrics such as AI efficiency, public trust levels, and administrative outcomes are integrated into the framework. These metrics guide improvements in AI technologies and inform policy adaptation strategies.
- **Feedback Loops:** The model emphasizes interconnected relationships between key elements. For example:
 - Stakeholder feedback directly influences policy adaptation.
 - Continuous improvement mechanisms refine AI technologies and enhance governance outcomes.
 - Regulatory oversight ensures AI systems align with public interests and legal frameworks.

By incorporating ethical considerations, regulatory oversight, and performance-based refinements, this model provides a comprehensive governance framework that can support

AI-driven public administration in Türkiye, the UAE, and beyond. It ensures that AI policies remain adaptive, accountable, and aligned with national development strategies.

Table number (2): A comprehensive overview of the integration of Artificial Intelligence (AI) in public administration and its implications for governance, service delivery, and ethical considerations

Integration of AI in Public Administration	
Aspect	Description
AI Technologies	- Machine Learning - Natural Language Processing - Predictive Analytics - Automation Tools
Objectives	- Enhanced Service Delivery - Improved Operational Efficiency - Increased Citizen Engagement - Transparent Governance
Ethical Considerations	- Bias Mitigation - Accountability Mechanisms - Data Privacy and Security - Ethical Guidelines
Stakeholder Engagement	- Involvement of Citizens - Collaboration with Civil Society - Input from Industry Experts - Coordination with Government Agencies
Feedback Loops	- Continuous Improvement - Policy Adaptation based on Feedback
Governance Framework	- Rigorous Decision-Making Frameworks - Alignment with Democratic Rights - Support for Ethical Guidelines

Potential Risks	- Job Displacement - Bias and Discrimination in AI Systems - Transparency and Accountability Issues - Cybersecurity Risks
Case Studies	- AI in Public Health Systems - AI in Traffic Management - AI in Document Management

This chapter has outlined the research design, data collection methods, and analytical approaches used to examine the adoption of AI in public administration in Türkiye and the UAE. By employing a qualitative methodology, this study provides an in-depth understanding of the contextual factors shaping AI governance, emphasizing stakeholder perspectives and policy implications. The use of semi-structured interviews and document analysis ensures a comprehensive exploration of AI strategies, regulatory frameworks, and ethical considerations in both countries. The Integrated AI Governance Framework presented at the end of this chapter serves as a conceptual foundation for analyzing the interplay between AI technologies, policy adaptation, stakeholder engagement, and continuous improvement in public administration. This framework will guide the interpretation of findings in the subsequent chapter, offering a structured approach to understanding AI's role in governance and its broader implications.

CHAPTER IV: RESULTS AND FINDINGS

This chapter presents the study's key findings, based on a thematic analysis conducted within a comparative discourse framework. Drawing from participant interviews, the chapter explores how AI is framed and implemented in the public sectors of Türkiye and the UAE. It begins with an overview of participant demographics—such as age, gender, country, and professional background—to help contextualize the analysis. The data was coded, and code frequencies were calculated to highlight the prevalence and distribution of themes. Descriptive statistics were used to support the narrative, offering a clearer picture of how different groups engaged with each theme.

The remainder of the chapter presents the core themes supported by illustrative quotes and statistical summaries, ending with a brief conclusion linking the results to the research objectives.

4.1 Demographic Factors

4.1.1 Country

In terms of geographic distribution, 52% of the participants were from Türkiye, while 48% were from the UAE. This balanced representation between the two countries allows for a comparative analysis of AI adoption and implementation strategies, reflecting both shared and country-specific experiences and challenges.

4.1.2 Age and Gender

The demographic profile of the participants is presented in terms of gender. Of the total participants, 87% were male and 13% were female. This gender distribution reflects the overall participation rates within the study, where a higher proportion of male participants contributed to the data. Additionally, 100% of the participants were above 35 years old. This age group provides valuable insights from experienced professionals who have a deep understanding of the challenges and opportunities related to AI in the public sector.

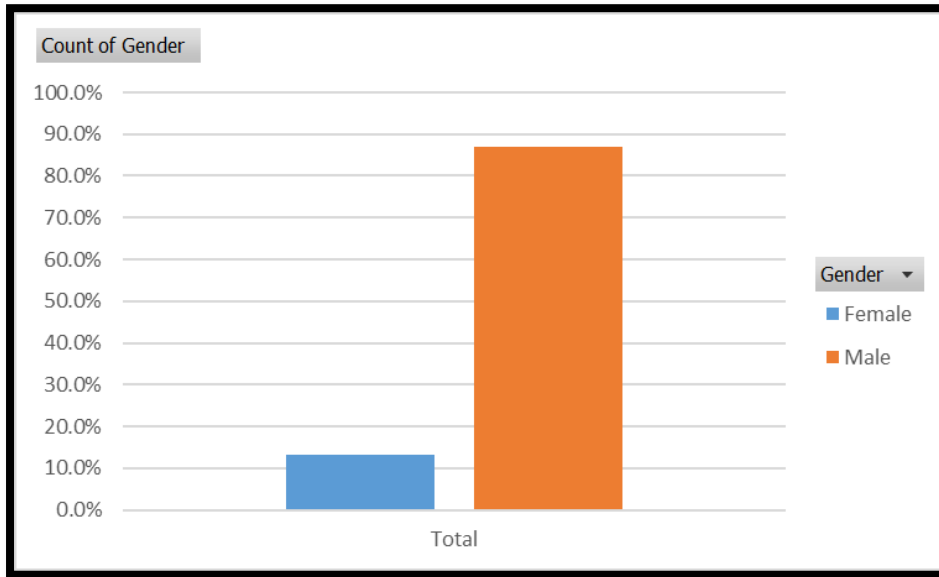


Chart 1: Geographic Distribution of Participants: Türkiye vs. UAE

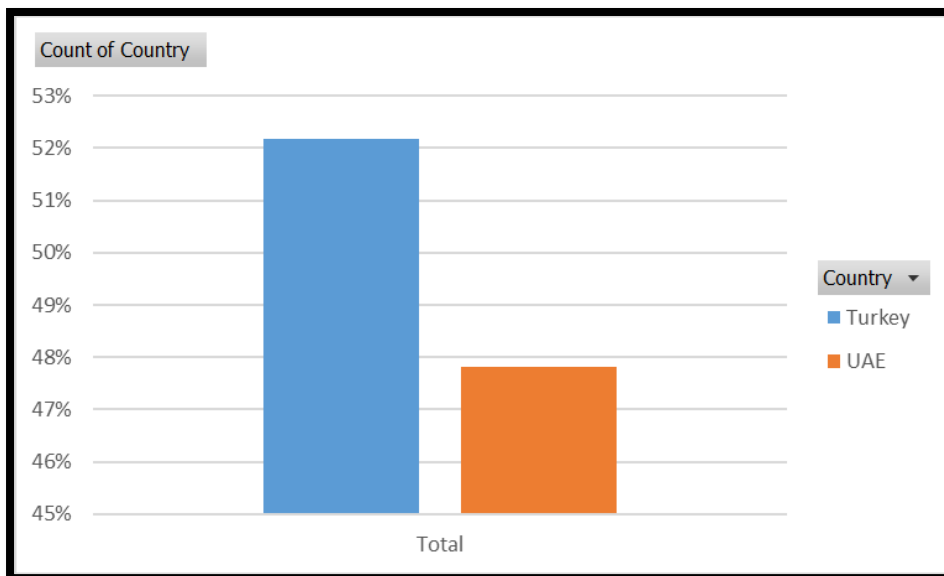


Chart 2: Gender Distribution of Participants

4.1.3 Professional Background of Participants

The participants come from diverse backgrounds, including leadership, academia, public administration, and technology, offering varied perspectives on AI implementation.

- **Academic and Research Expertise (35%):** Comprising Professors and Associate Professors from institutions such as Necmettin Erbakan University and Al Ain University, these participants bring deep knowledge in digital media, AI, and digital marketing.
- **Leadership and Strategic Roles (30%):** Includes senior positions like Senior Project Manager at the Ministry of Industry and Technology, Sr. Director of Information Technology, and CEO of Techfirm LLC (Cybersecurity), with significant experience in overseeing large projects and implementing strategic technological innovations.
- **Media and Communications Professionals (17%):** Professionals in roles such as Communications Manager at Zeytinburnu Belediyesi and Communication Officer of the Ombudsman Institution, focusing on how AI and technological advancements are communicated to the public.
- **Technology and AI Expertise (13%):** Includes experts in Information Technology, Cybersecurity, and AI, such as the Senior Enterprise Architecture Manager at the Emirates Nuclear Energy Corporation, specializing in the technical and innovative aspects of AI adoption.
- **Digital Transformation and Project Management (4%):** Participants like the Digital Projects Management Head and HR Head at the Information Technologies Institution, contributing expertise on digital transformation initiatives and AI integration.

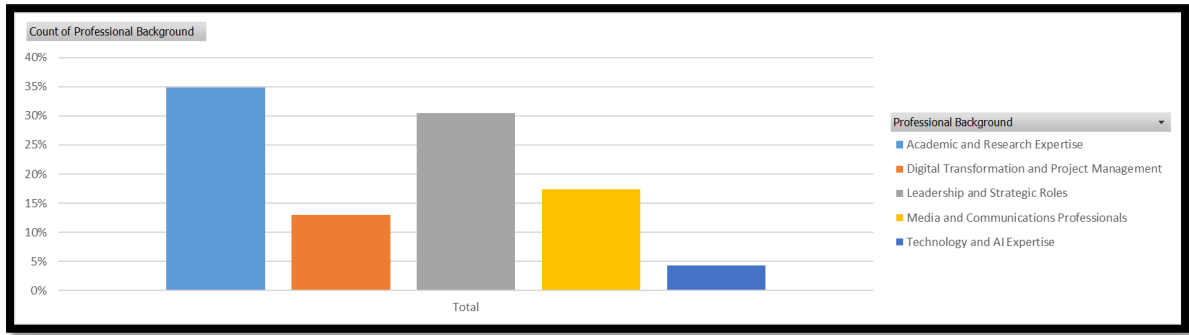


Chart 3: Professional Background of Participants

4.2 Thematic Analysis within a Comparative Discourse Framework

This study employs a thematic analysis within a comparative discourse framework to explore the dynamics of AI adoption in public administration in Türkiye and the UAE. The analysis is structured around three main themes, each encompassing specific codes that emerged from the participants' narratives. The first theme focuses on the **comparative analysis of AI national strategies**, highlighting codes such as AI-Adoption Strategy and AI-Governance, Economic Transformation through AI, and Private Sector Engagement. The second theme explores **transparency and data privacy**, reflecting concerns around accountability and responsible data use. The third theme addresses the **challenges of AI implementation**, including ethical considerations, lack of skills, and high investment costs. These themes and codes provide the foundation for both narrative interpretation and quantitative content analysis.

Table (2) Thematic Analysis: Themes and Corresponding Codes

Theme	Code
1-Comparative Analysis of AI National Strategies: Commonalities Between Türkiye and UAE	1-1 AI-Adoption Strategy and AI-Governance
	1-2 Economic Transformation through AI
	1-3 Focus on Innovation and Technological Leadership
	1-4 Private Sector Engagement and International Collaboration

	1-5 Cultural Openness to AI Adoption in Türkiye and the UAE
2-Reinterpreting Transparency and Data Privacy in the Context of AI Adoption	2-1 Transparency
	2-2 Data Privacy
3-Mapping the Challenges in AI Implementation in Public Administration: A Comparative Exploration of Türkiye and UAE	3-1 Ethical Considerations
	3-2 Lack of Skills
	3-3 Investment and High Costs

The national strategies for AI in Türkiye and the United Arab Emirates (UAE) are shaped by their distinct political structures, which influence their approaches to public administration and technological integration. The UAE, as a federal government, has the flexibility to implement a more centralized and top-down approach to AI, particularly in the context of national governance. The UAE’s leadership has strongly prioritized digital transformation, with AI being a key pillar in its Vision 2031, and the establishment of entities like the UAE Artificial Intelligence Council reflects its commitment to a unified, national strategy for AI deployment across various public sectors. The federal government can streamline decision-making processes and coordinate across its seven emirates, which allows for a coherent and cohesive AI adoption policy that integrates public administration systems effectively across the nation.

In contrast, Türkiye operates under a parliamentary system, which is characterized by a more decentralized approach to governance. The Turkish government, while having a strong national framework for AI development—such as the Turkish Artificial Intelligence Strategy—faces the challenge of coordinating across local governments and multiple institutions with varying levels of technological readiness. This decentralized structure can sometimes result in fragmented implementation of AI initiatives, as individual municipalities and regional governments may pursue different levels of AI integration depending on local

needs and resources. However, Türkiye's approach to AI is increasingly being shaped by strategic public-private partnerships and initiatives aimed at fostering a nationwide AI ecosystem, with a focus on innovation and competitive development.

Despite these structural differences, both countries have acknowledged the importance of AI in enhancing public administration, driving innovation, and improving governance. The UAE's top-down approach allows for a streamlined execution of its AI initiatives, often with a focus on global leadership in technological advancements. Meanwhile, Türkiye's parliamentary system encourages a more inclusive and participatory model, with an emphasis on fostering innovation across various sectors and ensuring equitable development across regions. Both approaches underscore the importance of aligning AI strategies with national governance structures to maximize efficiency and public benefit.

Ultimately, the political systems in both countries play a significant role in shaping the direction and implementation of AI in public administration. The UAE's centralized, federal approach allows for quicker decision-making and uniform policy execution, while Türkiye's parliamentary model offers a more flexible framework that allows for regional adaptation and localized strategies. Both countries' AI strategies, however, demonstrate a shared commitment to leveraging artificial intelligence to modernize governance and improve public services, highlighting the diverse ways in which political structures influence digital transformation in the public sector.

4.2.1 Theme 1: Comparative Analysis of AI National Strategies: Commonalities between Türkiye and UAE

Emerging technologies' rapid development and potential economic growth have sparked interest from policy makers and researchers in both developed and emerging countries, focusing on planning and application of these technologies. The creation of national technological advancement strategies encompasses a wide range of methods and approaches that are often categorized under the heading of national policy for science and technology as Chang (2022) defined it. " A collection of government actions that affect the generation,

acquisition, adaptation, diffusion, and use of technological knowledge in a way that the government deems useful for society rather than individuals is the definition of national technology policy (Ghazinoory., et, 2008).

The UAE's AI strategy, launched in 2017 with a goal to lead in AI by 2031, focuses on enhancing government efficiency and decision-making through AI integration across nine industries, including traffic and environmental management. The Turkish National AI Strategy, established in 2020, seeks to optimize public administration by leveraging AI for service delivery and decision-making. While both strategies emphasize AI's role in improving public services and resource allocation, Türkiye's approach is characterized by exploratory measures, workshops, and pilot projects, whereas the UAE's strategy includes establishing a dedicated Ministry of AI and comprehensive regulations.

Türkiye and the UAE view AI as a catalyst for economic growth and diversification, with a strong focus on integrating AI into Key industries such as healthcare, finance and transportation. Najdawi (2020) assures the implementation of AI in the United Arab Emirates has the potential to revolutionize various sectors, including transportation, healthcare, education, and the economy as a whole. Indeed, AI can manage routine administrative duties and respond to public inquires. Miller (2017) identified 26 potential ways in which artificial intelligence (AI) may be beneficial to the government. One of the 26 techniques was the utilization of AI in various public sectors such as healthcare, transportation, security, and water management. The national AI strategies of Türkiye and the UAE share several key similarities, particularly in their emphasis on using artificial intelligence as a tool for economic transformation. The similarities of AI National Strategy in both Türkiye and the UAE are classified into four main aspects of AI adoption in public administration as listed.

Code 1-1: AI-Adoption Strategy and AI-Governance

The United Arab Emirates' aim for artificial intelligence by 2031, whereas in 2017, the UAE government implemented its Artificial Intelligence (AI) Strategy, marking a significant

transformation in the country's history. Primarily, the AI strategy of the UAE will have a substantial impact on achieving the goals of the UAE Centennial Plan for 2071, which aims to establish the UAE as the foremost nation on the planet. Hence, the objective of the plan is to integrate a diverse array of AI-driven systems with the aim of enhancing overall government efficiency, addressing issues in a more efficient and timely manner, and positioning the UAE as a frontrunner in artificial intelligence investments across multiple sectors (Government.ae, 2018). The Strategy aims to deploy artificial intelligence (AI) technology in nine key industries, which include; improving traffic management, environment, education, technology, water resources, space exploration, renewable energy, health, and transportation, aiming to reduce accident rates, improve reforestation, enhance education, boost efficiency, conduct accurate research, manage renewable energy plants, and mitigating diseases. The Minister and Council members are now engaged in the process of establishing regulations to ensure the safe utilization of AI technology. The government is arranging seminars and training programs for staff to include AI systems, and has entered into cooperation with UK institutions to educate students and employees in the potential of intelligent machines. The UAE Artificial Intelligence Strategy 2031 seeks to establish the nation as a leader in AI worldwide, emphasizing the improvement of decision-making, resource allocation, and public services. Government officials in UAE perceive the potential benefits of AI adoption in public administration as transformative and strategic. In 2020, the Turkish government has followed the ambitious national AI strategy aimed at integrating artificial intelligence into various aspects of public administration. This strategy focuses on leveraging AI to enhance service delivery, optimize resource allocation, and bolster decision-making across government agencies. The initial phase of the strategy involved the establishment of AI labs within key ministries and the training of public officials in AI technologies and applications. As part of this effort, pilot projects were implemented to test AI-driven systems in areas such as e-government services, healthcare management, and urban planning. These initiatives marked a significant step towards realizing the potential of AI in transforming public administration in Türkiye. Government officials emphasize the potential of AI to accelerate service delivery in public administration, reduce costs, increase citizen satisfaction, and make decision-making processes more scientific and data-driven. High-level government officials in Türkiye believe that AI will increase efficiency in public

administration, improve decision-making processes, and speed up bureaucracy. In addition, “it is frequently emphasized that AI is a strategic priority within the scope of Türkiye’s digital transformation and national technology initiative”. (Interviewee, Mustafa, Türkiye). The development of digital transformation plans, training programs, public-private partnerships, legislative rules, and educational programs for AI integration are the main priorities of leaders, managers, NGOs, and other organizations, particularly YÖK in the context of education. Türkiye maintains a positive stance towards AI, reflected by the establishment of various presidential institutions that shape national AI policies. “The government is engaged in successful digital transformation initiatives, such as e-devlet (e-government) and e-nabız (e-pluse) applications, which aim to streamline citizen services. Public administration leaders are increasingly recognizing the potential of technology, including AI, to enhance citizen participation in governance”. (Interviewee, Orhan, Türkiye) Artificial Intelligence offers a great opportunity to increase efficiency in public administration, provide better services to citizens and use resources more effectively.

Q1: 1. How do high-ranking government officials perceive the potential benefits of AI adoption in public administration in the UAE and Türkiye?

Table (3) *Frequency of Key Perceptions on AI Adoption among High-Ranking Government Officials*

Insight	Frequency	% of Participants
AI improves efficiency & workflow automation	15	83%
AI enhances decision-making	13	72%
AI supports public service delivery	12	67%
AI aligns with national strategies (UAE 2031, Türkiye 2025)	10	56%
AI enables predictive, data-driven governance	9	50%

AI helps modernize bureaucracy (Türkiye focus)	7	39%
Generative AI seen as service innovation	5	28%
AI supports citizen satisfaction & inclusion	5	28%
Skills/capacity gaps hinder AI adoption	6	33%
Data privacy, ethical concerns mentioned	4	22%

Code 1-2: Economic Transformation through AI

Both Türkiye and the UAE view AI as a catalyst for economic growth and diversification, with a strong focus on integrating AI into key industries such as healthcare, finance, and transportation. “UAE has positioned itself as a global leader in AI adoption and innovation, with initiatives like UAE Strategy for Artificial Intelligence 2031, which aims to enhance government performance, improve decision making, drive efficiency, elevated citizen experience and foster a knowledge-based economy” (Interviewee, Abdualazia, UAE). AI has become a key component in each country’s broader vision for economic diversification and modernization, helping to shift from traditional industries to more technology-driven sectors. In the UAE, the government’s AI strategy is closely aligned with its Vision 2031, which seeks to establish the country as a global leader in AI and innovation (Interviewee, Hassan, UAE). The UAE has actively invested in AI research, development, and implementation across industries such as healthcare, energy, and finance, aiming to create high-tech job opportunities and boost economic productivity. Similarly, Türkiye has identified AI as a critical area for economic development in its National Artificial Intelligence Strategy (Interviewee, Fatih, Türkiye), emphasizing its role in improving efficiency across industries like manufacturing, agriculture, and transportation. Both nations are using AI as a tool to drive digital transformation and increase their competitiveness on the global stage. Interviewees from both countries highlighted the shared belief that AI can serve as a catalyst for creating new industries and high-value jobs, with Türkiye focusing on harnessing AI for domestic innovation and the UAE leveraging it to position itself as a regional and global tech hub. As both nations strive to integrate AI into their economies, they are creating new

avenues for entrepreneurship, fostering collaboration between public and private sectors, and ultimately enhancing their economic resilience through the adoption of advanced technologies. Artificial intelligence (AI) contributes to the provision of public services faster, more accurately and at lower costs. The efficiency brought by automation stands out especially in operational areas such as resource allocation, transaction processes and evaluation of citizen applications. On the other hand, AI's big data analysis capabilities allow decision makers to develop knowledge-based, predictive and result-oriented policies. The analytical power of AI is especially effective in areas such as social assistance, urban planning, health and education. Zümrüt (Interviewee, Türkiye) mentions that "AI-supported systems also provide advantages in terms of providing personalized and need-oriented services to citizens. In fact, with the understanding that takes the "state to the citizen"; it also brings an inclusive service provision that is free from geographical and social inequalities. Finally; it should not be forgotten that AI acts as a leverage in public administration's adaptation to the requirements of the age as part of the digital transformation. It is considered important for Türkiye to use AI effectively in public policies in order to increase its competitiveness at the global level".

Q4: What strategies and policies are being considered by leaders to promote the successful integration of AI technologies in public administration in the UAE/Türkiye?

Table (4): Key Strategies and Policies Supporting AI Integration in UAE/Türkiye Public Administration

Theme / Strategy	Frequency	Approx. % of Participants
Public-private partnerships	13	65%
Training and education programs	14	70%
AI governance and regulatory frameworks	12	60%
National AI strategies and roadmaps	10	50%

Investment in R&D and digital infrastructure	9	45%
Pilot projects and innovation hubs	8	40%
Data governance and cybersecurity	7	35%
Institutional capacity building	6	30%

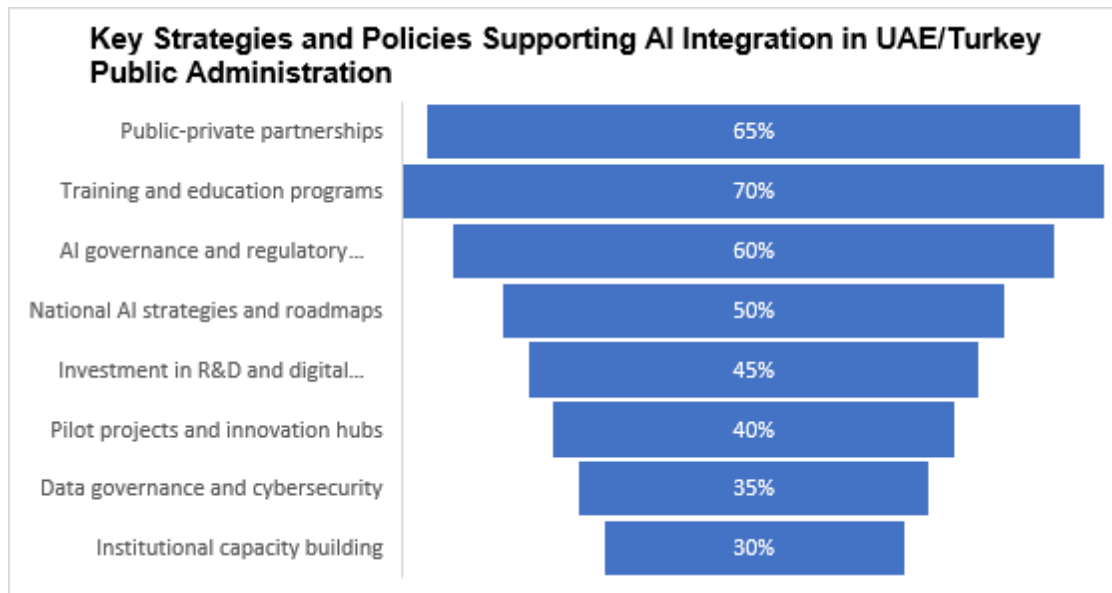


Chart 4: Key Strategies and Policies Supporting AI Integration in UAE/Türkiye Public Administration

Code 1-3: Focus on Innovation and Technological Leadership:

The strategies emphasize innovation as a cornerstone of AI development, aiming to position both countries as global leaders in AI research and application. The UAE government is committed to integrating AI across its services. Initiatives include creating a dedicated Ministry of AI to oversee regulations and building data centers to enhance data sovereignty. “Additionally, organization are encouraged to establish positions such as Chief AI Officer to focus on AI integration” (Dahibiya, UAE). In fact, the UAE is a country that always chasing the high technology in general and they have a vision which is 2030 first, and that is focusing mainly on how to enhance the decision making process in all governmental bodies. The interviewee’s experience confirms the AI-adoption in public sector, Hassan (Interviewee, UAE) stated, “Governmental process now is all through the apps, dedicated applications, and

mainly they use the AI. For the UAE, it's very important to have like this kind of high technologies to implement it in enhancing the decision making process in all public sectors". In Türkiye, The National Artificial Intelligence Strategy (NAIS) was developed by the Digital Transformation Office and the Ministry of Industry and Technology in Türkiye, in line with the Eleventh Development Plan and Presidential Annual Program for 2021. It outlines measures to align Türkiye's AI efforts amidst 2021-2025 and establishes governance mechanisms to implement these measures. The strategy is exploratory due to rapid advancements in AI. As part of the NAIS preparations, workshops were held, domain experts from various disciplines were asked to provide their evaluations, and interviews were conducted on-site and online with public institutions, universities, private sector organizations, NGOs, and international organizations (Interviewee, Orhan, Türkiye). Within this framework, the strategy was developed by considering the current state of affairs and national development objectives, in addition to the global trends created by the paradigm change in economic and social life that emerged owing to AI. Within this framework, NAIS's mission was established as follows; generating worldwide value through an adaptable and sustainable AI ecosystem for a successful Türkiye. AI is said to be particularly effective in e-Government and data analytics applications. "Leaders recommend policies such as infrastructure investments, human resource development programs, creating standards for data sharing and security, adopting national AI strategies, and encouraging collaboration with the private sector" (Interviewee, Doğan, Türkiye). Strategic direction at the national level is seen as critical. In this context, the National AI Strategy has been adopted as a basic roadmap and strategic goals have been set to encourage AI applications in public services. "The strategy aims to increase AI-oriented projects in public institutions, strengthen data management capacity and increase institutional awareness. Institutional capacity building is another priority area. Elite leaders advocate investing in tools such as training programs, awareness campaigns and expert employment to increase the digital and AI literacy of public personnel" (Interviewee, Zümrüt, Türkiye). In addition, flexible procurement models, R&D support and private sector cooperation policies are encouraged so that public institutions can adapt to technology more quickly. Data governance and interoperability are also at the forefront. Efforts are being made to strengthen the Digital Türkiye architecture in order to facilitate data sharing among public institutions and to create secure and holistic data

infrastructures. This supports the establishment of the necessary data ecosystem for AI systems to operate effectively. In ethical, legal and social dimensions, leaders focus on developing regulatory and guiding frameworks to ensure that AI systems operate in a transparent, fair and reliable manner. In this context, it is aimed to integrate mechanisms such as ethical principles, data privacy regulations, risk management protocols and impact assessment tools into public practices. Finally, monitoring the success of applications and continuous improvement are also encouraged through measurement and evaluation mechanisms. Thus, it is aimed to ensure that AI integration is not only a technological innovation but also a transformation tool that increases the quality of governance. Both countries aim to harness AI to drive growth and diversification, integrating it into various sectors such as healthcare, finance, and transportation. Innovation and technological leadership are central to both strategies, with the goal of positioning each nation as a global leader in AI research and application. According to the interviewees' experiences, both Türkiye and the UAE prioritize the development of local talent through investments in education, research, and specialized training programs, ensuring a skilled workforce to support AI-driven progress. Additionally, the creation of AI governance frameworks is a common priority, with both countries seeking to address the ethical, legal, and societal challenges posed by AI technologies. There are many associations, civil society organizations and academics working in the field of AI in Türkiye. "In addition to these, major industrial organizations such as TÜSİAD also have recommendations on AI. I can say that the AI ecosystem in Türkiye is growing strongly. This ecosystem will also contribute to the effective implementation of AI in the public sector" (Interviewee, Ahmet, Türkiye).

Q10: Expert Recommendations for Effective AI Implementation in UAE/Türkiye Public Administration

Table (5) *Expert Recommendations for Effective AI Implementation in UAE/Türkiye Public Administration*

Recommendation Theme	Frequency	% of Participants
Develop clear AI strategies and national frameworks	13	65%
Invest in education, training, and public sector skills	12	60%
Strengthen ethical guidelines and AI governance	10	50%
Improve data quality, governance, and integration	9	45%
Foster public-private and international partnerships	9	45%
Ensure cybersecurity and data sovereignty	6	30%
Support infrastructure and R&D investment	6	30%
Promote transparency and public trust in AI systems	5	25%
Use pilot projects and gradual rollout approaches	4	20%
Encourage innovation and support startups	4	20%

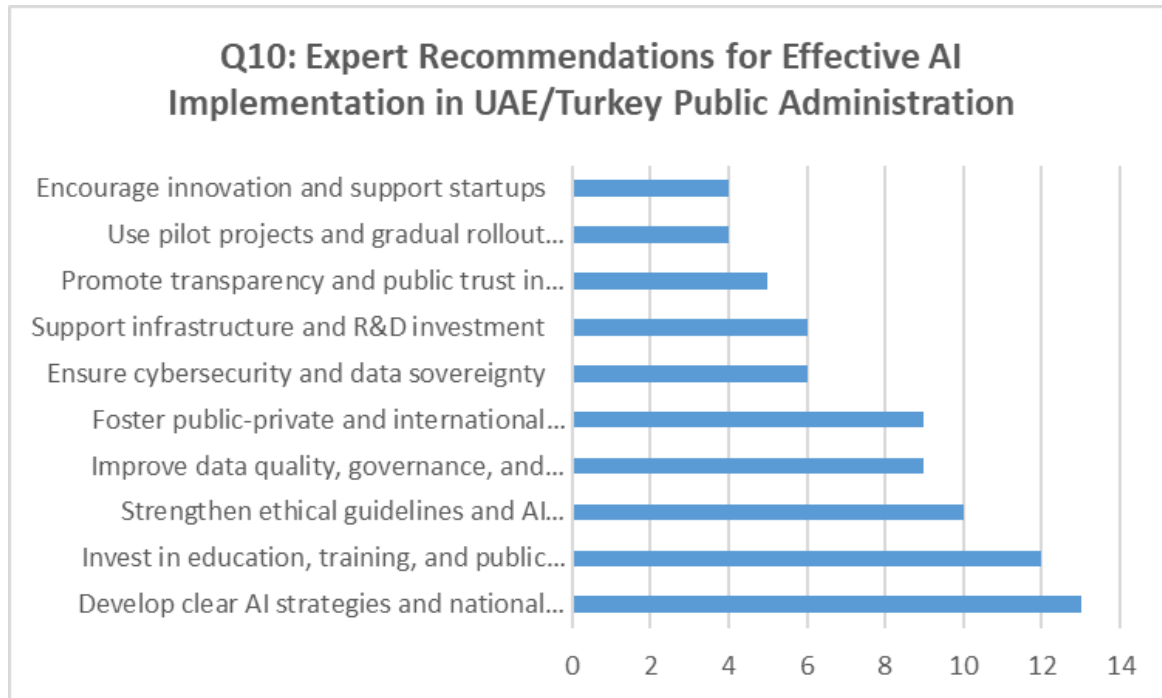


Chart 5: *Expert Recommendations for Effective AI Implementation in UAE/Türkiye Public Administration*

Code 1-4: Private Sector Engagement and International Collaboration:

Both Türkiye and the UAE encourage private sector involvement in AI advancements and emphasize the importance of international cooperation to drive innovation and global competitiveness. The strategies highlight the importance of fostering private-sector involvement as (Interviewee, Abdulaziz, UAE) recommends to “foster public-private partnerships and collaborations” and promoting international collaboration, recognizing that global partnerships are essential for driving innovation and enhancing global competitiveness in the AI domain. In addition, “government must engage with private companies to access necessary skills and technologies” (Interviewee, Kashif, UAE) “Leaders emphasize cross-sector partnerships among governmental bodies, private enterprises, and academia to cultivate a dynamic AI ecosystem. For instance, collaborative initiatives such as joint research projects between universities and private firms have led to the development of advanced AI tools tailored to public sector needs.” (Interviewee, Fatih, Türkiye). These partnerships have significantly accelerated the

integration of AI technologies, demonstrating their importance in fostering a cohesive and impactful AI ecosystem in Türkiye and the UAE. They also stress the importance of public-private partnerships to harness AI's capabilities while mitigating resource and knowledge gaps. It's like assembling a superhero team—every partner brings unique strengths to make the mission a success. Furthermore, leaders-managers-NGOs and other institutions (especially YÖK in the context of education) are focusing on developing digital transformation strategies, training programs, “public-private partnerships” (Interviewee, Mustafa, Türkiye), legislative regulations and educational programs for AI integration. Elite stakeholders in Türkiye offer multidimensional suggestions and opinions to policy makers in order to ensure the effective and sustainable implementation of artificial intelligence (AI) technologies in public administration. These suggestions are generally gathered under the titles of strategic governance, regulatory clarity, capacity building, data management, ethical framework and transparent communication with the public. It is emphasized that the regulatory framework needs to be clarified and updated. In fact, “suggestions are made for a public legislative framework specific to AI or for the integration of the AI perspective into existing regulations. In addition, it is desired to encourage non-binding but guiding documents to ensure the internalization of ethical guidelines at the institutional level. Another priority is the development of human resources and institutional capacity. Elite stakeholders state that the competence level of public personnel plays a key role in the applicability of AI technologies; in this context, a wide range of professional development programs should be created, from public-specific AI awareness training to advanced technical skills. At the same time, it is emphasized that collaborations with the private sector and universities should be increased and public-private partnerships should be encouraged more” (Interviewee, Zümrüt, Türkiye). Data is seen as a fundamental element in this transformation. Therefore, it is recommended that data management must be institutionalized, and mechanisms be created to increase interoperability and data sharing among public institutions. Among the frequently mentioned suggestions are that national open data initiatives should be restructured in line with AI and that the quality of public data should be increased. Finally, it is emphasized that transparency, citizen participation and communication strategies

should be strengthened in order to gain public trust and ensure that technology gains legitimacy in society. All these suggestions demonstrate the importance of a coordinated policy approach at both technical and governance levels for an effective, ethical and inclusive AI transformation process in public administration.

Q4&10: Frequencies of Expert Insights on Private Sector and International Collaboration in AI Policy

Table (6) *Frequencies of Expert Insights on Private Sector and International Collaboration in AI Policy*

Sub-theme	Frequency	% of Participants
Public-private partnerships & collaborations	13	65%
Engagement with private tech companies	10	50%
Joint initiatives with academic institutions	6	30%
International cooperation and global partnerships	8	40%
Supporting startups and innovation hubs	5	25%
Involvement of NGOs and professional associations	3	15%

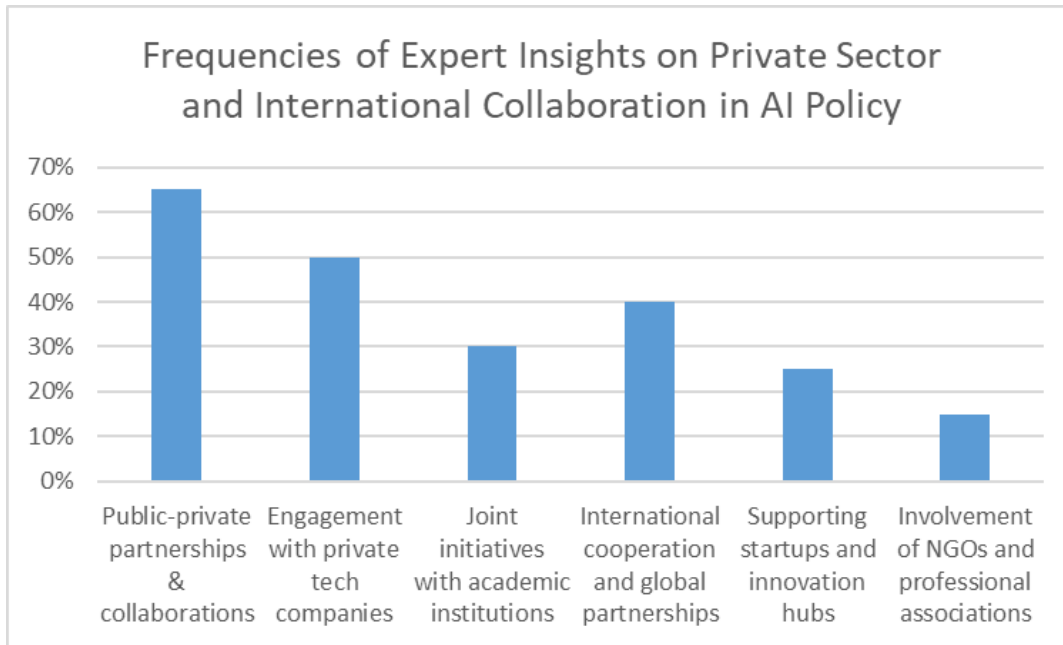


Chart 6: *Frequencies of Expert Insights on Private Sector and International Collaboration in AI Policy*

Code 1-5: Cultural Openness to AI Adoption in Türkiye and the UAE

The adoption of AI in both Türkiye and the UAE has been met with a positive cultural response, with many interviewees highlighting the growing enthusiasm and willingness to embrace new technological advancements. As one interviewee from the UAE noted (Ali, UAE), "There is a strong desire among both government employees and the public to learn about AI and its applications, driven by a sense of excitement and curiosity about its potential". Similarly, an (Interviewee, Orhan, Türkiye) from Türkiye mentioned, "People are motivated to explore AI solutions, as they see its value in streamlining processes and improving efficiency in government services". This openness to AI suggests that both countries are fostering an environment where innovation is encouraged and the workforce is increasingly inclined to adapt to new technologies. Such cultural openness is critical for the successful integration of AI into public administration, as it lays the foundation for continuous learning and growth in the AI field. Actually, the stakeholders exhibit a forward-looking and pragmatic perspective on AI, acknowledging its potential revolutionize governance. "Their positive stems from AI's capacity to streamline processes, reduce redundancies, and enhance service quality". (Interviewee, Fatih, Türkiye). The readiness to

embrace AI is reflected not only in the interest of government employees but also in the broader public's enthusiasm for technological innovation. The UAE's federal government has actively promoted AI initiatives through dedicated councils and national strategies, creating an environment where both citizens and public servants are encouraged to engage with emerging technologies. Similarly, in Türkiye, the public sector has seen an increasing number of AI-related programs aimed at enhancing digital literacy and fostering technological awareness among the population. This cultural openness and eagerness to learn about AI is a crucial foundation for its integration into public administration, as it indicates a collective readiness to adapt to the changes AI brings, ensuring that the transition is not only efficient but also widely accepted by stakeholders across both nations. Such a cultural shift presents a promising outlook for the future of AI in governance, as both countries prepare to incorporate AI-driven innovations into their public services.

Q6: What are the attitudes and perceptions of stakeholders towards AI technologies in public administration, and how do these influence their willingness to adopt and utilize AI solutions in government operations?

Table (7) *The attitudes and perceptions of stakeholders towards AI technologies in public administration*

Perception or Attitude	Frequency	% of Participants
Optimistic and forward-looking about AI potential	15	75%
Cautious optimism due to risks and regulatory gaps	12	60%
Concerns about job displacement and employment impact	8	40%
Trust linked to transparency, explainability, and governance	9	45%
Cultural enthusiasm and openness to innovation	10	50%

Need for stronger legal and ethical frameworks	11	55%
Variation in attitudes due to knowledge or awareness gaps	6	30%
Influence of leadership and government vision on adoption	7	35%
Gradual adoption strategy preferred over rapid deployment	5	25%
Support for training, education, and capacity building	6	30%

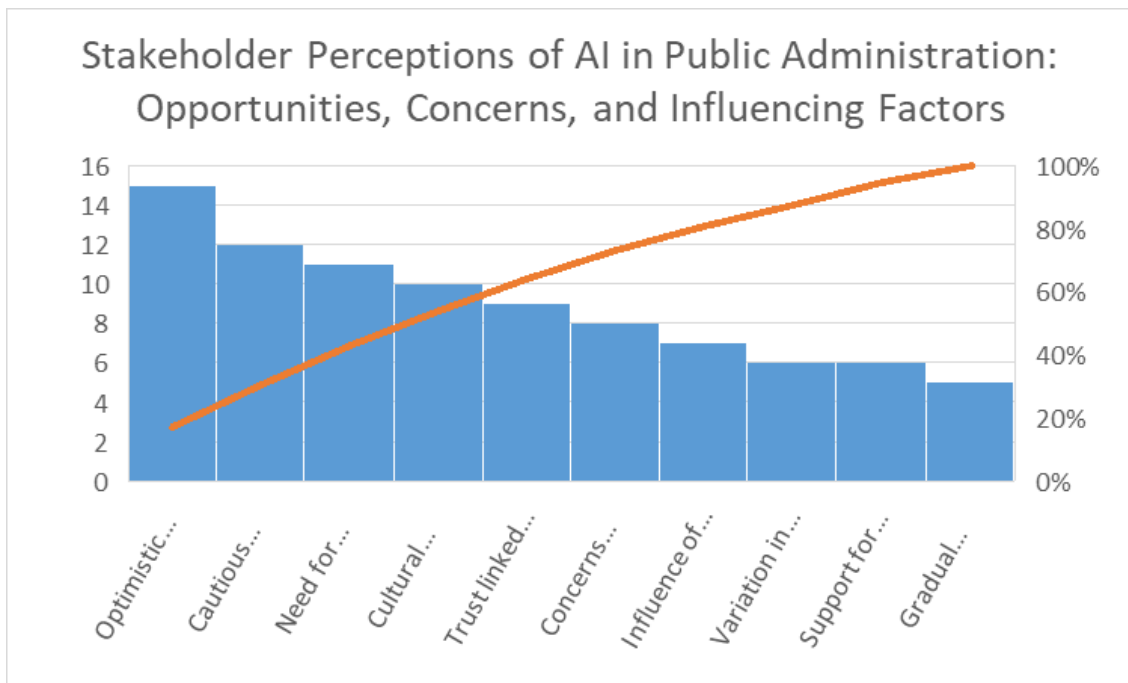


Chart 7: Stakeholders towards AI technologies in public administration

4.2.2 Theme 2: Reinterpreting Transparency and Data Privacy in the Context of AI Adoption

In the past, presidential candidates may have only called for increased accountability, but now they demand for increased transparency and accountability in government (Karp 2005;

Obama 2006). The terms "transparency" and "accountability" are used interchangeably in the Federal Funding Accountability and Transparency Act of 2006 and the Legislative Transparency and Accountability part of the Honest Leadership and Open Government Act of 2007. The former aims to mandate greater disclosure from organizations that are awarded federal contracts. The latter aims to regulate lobbyists' operations and mandate more transparency on bills that members of Congress have designated.

From a socio-legal and public administration standpoint, this section tackles the problems of transparency in relation to artificial intelligence (AI). The legal, political, and institutional frameworks that provide actors inside and outside of the domestic political system with access to information about the internal workings of a government and society are collectively referred to as transparency. Transparency, a multifaceted concept, has gained resurgence in contemporary AI governance, as evidenced by recent ethics guidelines on AI. Transparency, for instance, is listed as one of seven essential requirements for the realization of "trustworthy AI" in the ethical guidelines released by the EU Commission's High-Level Expert Group on AI (AI HLEG) in April 2019. This requirement is also clearly stated in the Commission's white paper on AI, which was released in February 2020.

Lord and Finel (1999, 316) assumes that any system that results in information being made public, such as a free press, open government, hearings, or the presence of nongovernmental organizations having an interest in disseminating unbiased information about the government, increases transparency. For example, interviewee 7 (Ahmed Zaruni, UAE) asserted that "if AI-adoption in public administration implemented correctly, the generative AI could lead to significantly improved service quality and transparency. However, concerns remain about the challenges that arise during implementation, including the tendency for AI to produce unexpected results under certain conditions". Indeed, the generative AI can sometimes exhibit unexpected behavior, akin to a human having a mood swing. This unpredictability can lead to issues where the AI may stop functioning properly or fail to perform basic tasks, which in turn could affect the overall transparency and reliability of the services provided. Another interviewee (Zümürüt, Türkiye) considers that "while there is

potential for AI to promote transparency and improve service quality, the actual realization of these benefits depends on overcoming significant implementation challenges and careful management of unexpected AI behaviors”.

Public administration leaders in Türkiye regard AI as a critical enabler of inclusive and transparent governance. AI-powered analytics and predictive modeling are seen as tools to proactively address public concerns and optimize service delivery. Furthermore, an interviewee (Fatih, Türkiye) confirms that “leaders stress the role of AI in promoting transparency and accountability, which are deemed essential for fostering trust in government institutions and strengthening democratic processes. Furthermore, they advocate for mechanisms to monitor and evaluate AI’s societal impact, ensuring that it aligns with public expectations and ethical standards. Transparency, they argue, isn’t just a buzzword—it’s the glue that holds trust and governance together.”

Elite leaders in the UAE see AI improving service quality by increasing efficiency, reducing errors, and enabling predictive solutions. Abdulaiziz (Interviewee, UAE) states that “AI promotes transparency by enabling data-driven, decision-making, open data initiatives, and anti-corruption measures. In parallel, leaders are extensively working to address challenges like bias and digital literacy.” In the context of AI in public administration, transparency is seen as an essential aspect that should be considered from the perspective of customer experience and stakeholder benefits. Mulla (Interviewee, UAE) highlights that “transparency should be aligned with the actual needs and expectations of citizens, suggesting that AI should not only improve internal processes but also enhance civic engagement and the overall customer journey. Thus, ensuring that transparency is meaningful and based on customer input is crucial in the implementation of AI initiatives in public administration.”

One interviewee (Hassan, UAE) shared his perspective on the transparency of information provided by the UAE regarding the status of transactions and applications “Definitely, there is transparency when you do any kind of governmental transactions, at the same moments you will receive SMS message with this transaction, also you will receive an email of that. So, there is a full transparency on that. The government itself is supporting the transparency generally, that’s why when you browse any governmental website, there is what they call

open data, there are many reports even for budgets. So, the government is supporting the transparency at any kind of transactions and providing information for public audience.” This response underscores the importance of continuous enhancement in communication channels to ensure that citizens and residents have timely, accurate, and easily accessible information regarding their transactions. It aligns with broader feedback suggesting that, while progress has been made, further transparency can be achieved through the integration of more advanced digital solutions and clearer communication strategies.

Elite stakeholders in Türkiye advocate for AI solutions that are both inclusive and equitable, ensuring that technological advancements foster public trust and contribute positively to societal welfare. For example, Fatih (Interviewee, Türkiye) believes that “they propose the development of AI systems that actively avoid algorithmic biases by using diverse datasets and implementing fairness audits. Additionally, they suggest involving marginalized communities in the design and evaluation of AI tools to ensure the outcomes address a broader range of societal needs and challenges.” Stakeholders also highlight the potential for AI to mitigate biases in decision-making processes, provided that diverse datasets and unbiased algorithms are utilized, thereby enhancing fairness and inclusivity.

To balance the positive responses with the more critical perspectives, it is important to recognize that while many interviewees expressed optimism about the role of AI in enhancing transparency, others raised concerns about its implementation and impact. While AI has the potential to streamline processes, increase accountability, and provide greater transparency in decision-making, some interviewees highlighted challenges such as data privacy, algorithmic bias, and the need for regulatory frameworks to ensure fairness. For instance, Oya (Interviewee, Türkiye) states that “while there is a desire to improve service delivery and accessibility through AI, there is skepticism about whether AI can truly enhance transparency in government operations”. Issues such as data privacy, the risk of reinforcing biases, and the lack of accountability in AI-driven decisions have been stated by Mustafa (Interviewee, Türkiye) as he expressed “I am generally positive that AI can increase citizen participation and improve service quality, but I think there is a lack of clarity on transparency and data security”.

Transparency should protect privacy, yet Hassan (Interviewee, UAE) mentions “You can see that all websites these days, they have like a privacy policy. But in my opinion, I do believe that as long as you are online, there is no privacy.” These differing viewpoints underscore the complex and multifaceted nature of AI adoption, where its benefits in promoting transparency must be carefully weighed against potential risks and limitations. While several interviewees voiced concerns about the potential downsides of AI in promoting transparency, these critiques highlight important challenges that need to be addressed for effective implementation. Issues such as data privacy, the risk of reinforcing biases, and the lack of accountability in AI-driven decisions were frequently mentioned. These concerns point to the need for more robust ethical guidelines and regulatory frameworks to mitigate the risks associated with AI systems, ensuring they remain transparent, fair, and trustworthy in their application. The feedback suggests that, while AI holds promise, its integration requires careful oversight to address these potential pitfalls.

Despite the potential benefits of AI, public institutions are cautious due to concerns about security vulnerabilities, personal data protection and ethical implications of AI usage. Additionally, Oya (Interviewee, Türkiye) explains “There is a strong emphasis on ensuring that the integration of AI does not compromise the safety and privacy of citizens’ information. As a result, the adoption of AI is approached with a focus on controlled and secure implementations, often prioritizing the mitigation of risks over the immediate advantages of AI technologies.” In this vein, strengthening the digital infrastructure, “data security regulations (Interviewee, Mustafa, Türkiye)” training programs and collaborations are suggested.

Q7: Perceptions of Elite Leaders on AI's Role in Enhancing Engagement, Service Quality, and Transparency in Government (UAE & Türkiye)

Table (8): *Perceptions of Elite Leaders on AI's Role in Enhancing Engagement*

Perception or Insight	Frequency	% of Participants
AI improves citizen engagement via digital participation tools	14	70%
AI enhances service quality (speed, accuracy, personalization)	16	80%
AI promotes transparency and accountability	13	65%
Concerns about lack of clarity on data transparency	6	30%
Emphasis on citizen-centered design and feedback loops	7	35%
AI supports open data and anti-corruption initiatives	5	25%
Uneven implementation across ministries/departments	4	20%
Calls for better policy on data sharing and classification	5	25%
Skepticism or limited examples of transparency in practice	4	20%
AI must be auditable and explainable to ensure trust	6	30%

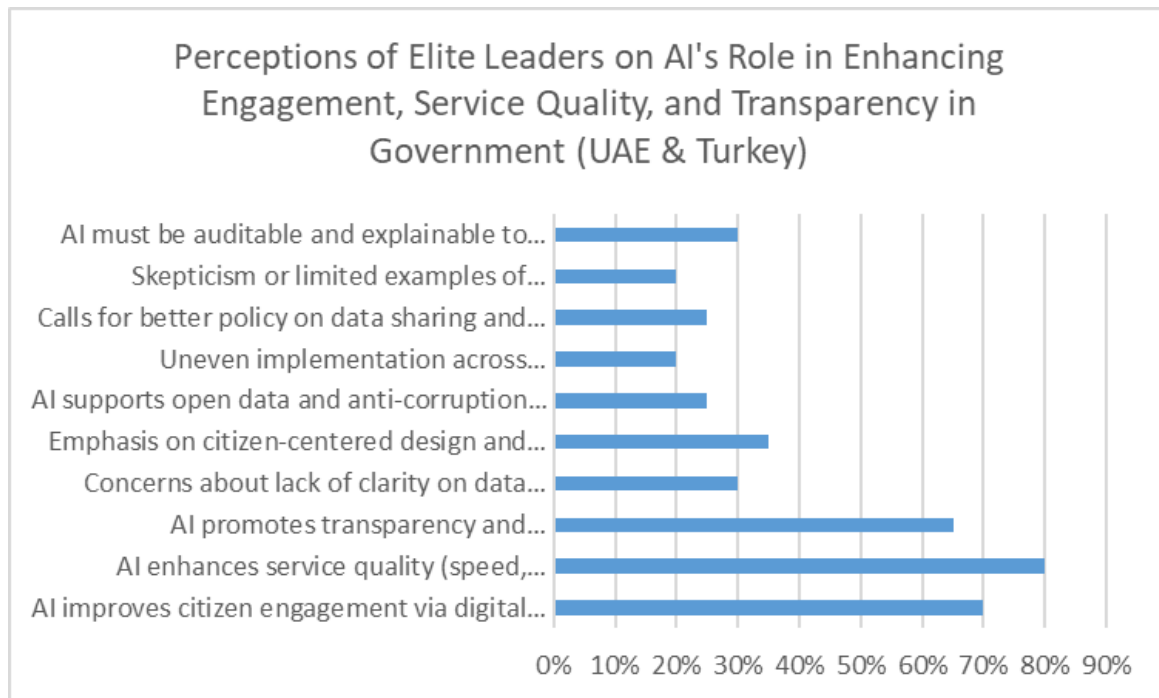


Chart 8: *Perceptions of Elite Leaders on AI's Role in Enhancing Engagement*

4.3.2 Theme 3: Mapping the Challenges in AI Implementation in Public Administration - A Comparative Exploration of Türkiye and UAE

When implementing Artificial Intelligence (AI) within the domain of public administration, it is imperative that ethical issues and the broader societal consequences of AI technologies are given due consideration. The deployment of AI in governance has the potential to reshape institutional decision-making, public services, and even the socio-political landscape, but such shifts must be navigated carefully, especially with respect to ensuring that AI operates within a framework that prioritizes fairness, accountability, and transparency. Achieving ethical AI governance requires addressing the inherent uncertainties and complexities associated with AI algorithms, which are often characterized by opacity and a lack of comprehensible explanation regarding how they arrive at decisions (Erman & Furendal, 2022). As such, public institutions must actively engage in the development and enforcement of regulatory measures designed to mitigate these uncertainties, ensuring that AI-driven processes are not only effective but also ethically sound and aligned with democratic values. Furthermore, the challenge lies not merely in overseeing the technical dimensions of AI

deployment, but in fostering a broader societal understanding of how these technologies may affect both individuals and communities at large.

The necessity of a responsible approach to AI adoption, particularly within the public sector, is further underscored by Diab's (2022) study, which emphasizes the significance of comprehending the far-reaching implications of AI on consumer behavior and the global economy. Diab (2022) argues that the integration of AI technologies must go beyond immediate technical applications, delving into the long-term societal and economic effects that AI may precipitate. These include shifts in consumer behavior patterns driven by AI-driven personalization, automation's potential to disrupt labor markets, and broader economic shifts that may exacerbate existing inequalities. The study highlights the importance of understanding these indirect effects, which are often less immediately observable but crucial for ensuring that AI's benefits are equitably distributed. Therefore, public administration must not only consider the direct impacts of AI implementation on governance and service delivery, but also anticipate the broader societal and economic changes that such technology may provoke, ensuring that its deployment aligns with principles of social justice and economic equity.

In essence, ethical AI governance necessitates a dual focus: the mitigation of algorithmic uncertainty and bias, as well as the proactive management of AI's broader societal implications. Public institutions must balance the drive for technological innovation with a steadfast commitment to ensuring that AI serves the public interest and promotes inclusive, equitable, and responsible outcomes. This will require robust regulatory frameworks, continuous public engagement, and interdisciplinary research that addresses both the technical and socio-economic dimensions of AI adoption (Erman & Furendal, 2022; Diab, 2022).

Adoption and integration of (AI) within public administration are multidimensional processes that present a host of challenges, particularly in countries such as Türkiye and the United Arab Emirates (UAE). These nations, while sharing the common goal of enhancing governance through AI, encounter unique obstacles shaped by their socio-political contexts, cultural dimensions, and technological infrastructures. Despite significant strides toward AI-driven governance, both countries are confronted with complex ethical, legal, societal, and

operational hurdles in their respective efforts to modernize public administration. This examination seeks to critically explore these challenges, particularly focusing on ethical considerations, workforce dynamics, transparency, citizen engagement, regulatory frameworks, and infrastructure concerns.

Code 3-1: Ethical Frameworks for Responsible AI Adoption in Public Institutions

One of the main ethical challenges is ensuring that AI systems are developed and implemented in ways that respect citizens' privacy and freedoms. Issues like data protection, algorithmic bias, and transparency in decision-making are under scrutiny. There are concerns about how AI systems may disproportionately impact vulnerable groups, and a lack of clear guidelines for ethical AI use. Türkiye is paying attention to this issue with sensitivity. An interviewee (Ahmet, Türkiye) states that “The Public Officials Ethics Board's AI ethics principles were recently announced. National Strategy on AI and other action documents also focus on ethics and social impacts. It can be said that Türkiye's steps are similar to efforts around the world”. Actually, decision makers cite key challenges such as data privacy and security, lack of sufficient skilled workforce, inadequate existing infrastructure, and “ethical issues” (Interviewee Doğan, Türkiye). In addition, the elite stakeholders have expressed concerns that AI could increase social inequalities, lead to data discrimination, and violate individuals' privacy rights. However, “it has been noted that these technologies can provide societal benefits if implemented ethically” (Interviewee, Ahmet, Türkiye). The researcher has inferred from the conducted interviews that the elite stakeholders in Türkiye usually underscore the necessity of ethically informed AI adoption in public administration. They view AI not only as a vehicle for administrative efficiency but also as an instrument to promote fairness and societal benefit. “These stakeholders stress the importance of adhering to ethical guidelines, emphasizing transparency, accountability, and the protection of individual rights. They advocate for AI solutions that are both inclusive and equitable, ensuring that technological advancements foster public trust and contribute positively to societal welfare. It's like upgrading from dial-up to fiber optics—the leap is massive, but worth every effort if done right”. (Interviewee, Fatih, Türkiye) Furthermore, Stakeholders adopt a forward-thinking approach to AI, acknowledging its potential to transform

governance by improving efficiency, reducing redundancies, and enhancing service quality. This enthusiasm for AI's transformative capabilities translates into a strong inclination to adopt AI solutions across public administration. However, this forward momentum is balanced by a collective commitment to ethical implementation, which necessitates the establishment of conditional ethical regulations. These regulations serve as a framework to ensure that AI adoption is not only efficient but also aligned with core values such as fairness, transparency, and accountability. While stakeholders are eager to harness the benefits of AI, they acknowledge that its deployment must be governed by ethical standards that address concerns related to bias, data privacy, and the broader societal impact, ensuring that AI technologies are used responsibly and equitably. Thus, the challenge lies in finding the right balance between rapid AI adoption and the careful, conditional regulation required to uphold ethical integrity within public administration. Fatih (Interviewee, Türkiye) explains that the public administration leaders in Türkiye advocate for mechanisms to monitor and evaluate AI's societal impact, ensuring that it aligns with public expectations and ethical standards. In addition to the possibility of biased results, issues such as violation of personal data privacy and users of non-transparent AI models are on the agenda of public authorities. In order to use AI technologies in a "reliable and ethical framework, the TSE Turkish Standards Institute continues its "Trusted AI Seal" studies. With a risk-based approach, for example, technical standards developed by NIST and regulations similar to the EU AI Law continue to be implemented in Türkiye. The most concrete example of these studies is the "AI Research Commission" established by the Turkish Grand National Assembly" (Interviewee, Omer, Türkiye). This commission will provide a roadmap for drawing the legal framework with the report it will publish as a result of its research. Public administration leaders in Türkiye recognize that AI technologies have significant potential to increase citizen participation, improve service quality, and promote transparency in government services, and consider this potential as a strategic tool. "In terms of citizen participation, leaders believe that AI can enable citizens to participate more effectively in public processes, especially through digital platforms. Solutions such as feedback systems, public opinion analyses, and decision support tools make it possible to collect and analyze citizens' opinions more systematically. This increases the capacity for citizen-centered policy development and encourages a more inclusive approach in governance processes. In terms of service quality,

it is evaluated that AI can make contributions such as personalizing public services, accelerating application processes, and reducing bureaucracy. In terms of transparency and accountability, the power of AI to make public service processes more traceable and data-driven is evaluated as an element that strengthens public governance” (Interviewee, Zümrit, Türkiye). Leaders aim to develop mechanisms that will increase the traceability of resource use, make decision-making processes retrospectively auditable, and enable more objective performance measurement through automation and data analytics. However, it is emphasized at this point that AI systems themselves should also be transparent, auditable, and understandable. As a result; public administration leaders in Türkiye see AI not only as a technology, but also as the carrier of a more participatory, effective, and transparent public administration vision. However, a common awareness has begun to emerge that ethical principles, digital inclusiveness, and human-centered design principles must be observed in order for this vision to come to life. While the UAE has been progressive in integrating AI into governance, it faces ethical dilemmas around surveillance and privacy. The government has been actively using AI in security and policing, which raises concerns about the potential for authoritarian oversight. The challenge lies in balancing security benefits with the protection of civil liberties, as well as the “lack of mature regulations governing AI's ethical use.” (Interviewee, Mulla, UAE) In discussing the challenges of AI adoption in the UAE, an interviewee highlighted several barriers that span technical, organizational, ethical, and regulatory domains. These challenges underscore the complexities of implementing AI responsibly within public administration. Specifically, issues such as “data quality, availability, security, and privacy” (Interviewee, Abdualaziz, UAE) are significant technical hurdles that must be addressed to ensure AI systems function effectively and securely. Coordination between different governmental entities is also a challenge, as fragmented efforts can slow down AI integration. While the UAE has made significant strides, “challenges remain, particularly in terms of data quality, governance, and the ethical implications of AI” (Interviewee, Mulla, UAE). Of particular concern, however, are the ethical and regulatory gaps—there is a clear lack of well-defined regulations surrounding AI ethics, data usage, and accountability “(Interviewee, Abdualaziz, UAE). These regulatory uncertainties pose a significant challenge to ensuring that AI is adopted in a manner that aligns with societal values and protects individual rights. Thus, the integration of AI in public

administration in the UAE faces considerable ethical considerations, as stakeholders must address both the technological complexities and the regulatory framework necessary to uphold ethical standards in AI usage. Throughout the interviews, the researcher have found that the stakeholders in the UAE assess the ethical and social implications of AI adoption by prioritizing transparency, fairness, accountability, and privacy to ensure AI systems are explainable, unbiased, and secure. Governance frameworks and ethical guidelines, such as the “UAE’s AI ethics principles, ensure responsible AI use while fostering innovation and public confidence” (Interviewee, Ali, UAE). Stakeholders in UAE are enthusiastic and optimistic about AI’s potential to transform public administration despite the ethical, technical, and social challenges and concerns. “Their willingness to adopt AI is influenced by the vision set by UAE government, strong leadership, proven success stories in other entities, and efforts to build trust and capability” (Interviewee, Abdulaziz, UAE). The current state of regulations governing AI is still developing, and there is a general acknowledgment that comprehensive ethical guidelines are lacking. Ethical AI usage must consider privacy policies and data usage regulations. Governments must ensure that the data used for AI systems is handled responsibly, protecting citizens' privacy rights. This includes implementing robust data governance practices that ensure the integrity and security of data. Moreover, “the ethical considerations surrounding AI usage by governments involve a complex interplay of regulatory framework development, data privacy protection, social impact awareness, bias mitigation, and accountability, all of which require thoughtful planning and execution to effectively harness AI's potential while safeguarding citizens' rights”. (Interviewee, Mulla, UAE) Stakeholders are aware of the “ethical and social dimensions, focusing on fairness, accountability, and the protection of citizen data” (Interviewee, Kharzi, UAE). However, the depth of these assessments varies, with emphasis placed on compliance with UAE regulations and societal values. The researcher could infer that the policies often emphasize balancing innovation with ethical considerations and ensuring alignment with the UAE’s broader digital transformation goals. Zarouni (Interviewee, UAE) confirms that the UAE emphasizes compliance with global ethical standards, data privacy laws, and cybersecurity frameworks. Policies such as the UAE AI Ethics Guidelines and the UAE National Artificial Intelligence Strategy 2031 outline principles for responsible AI use in

government.” In conclusion, the ethical considerations surrounding AI adoption in public administration present significant challenges that require careful attention to ensure responsible and equitable implementation. There should be very clear ethical guidelines and what, you know, how to implement AI, how to integrate it “because we know for a fact that, you know, a lot of things go wrong. A lot of things may happen that may enter the boundaries of unethical practices” (Interviewee, Kashif, UAE). Both Türkiye and the UAE face complex barriers, including concerns over data privacy, security, and algorithmic bias, as well as the need for clear regulatory frameworks. While stakeholders in both countries are enthusiastic about AI’s potential to streamline governance and improve service delivery, they recognize the importance of aligning AI deployment with ethical standards that promote fairness, transparency, and accountability. In Türkiye, efforts are underway to establish ethical guidelines and frameworks for AI integration, while in the UAE, the government is focused on balancing innovation with the protection of civil liberties. Ultimately, the successful adoption of AI in public administration will depend on the development of robust ethical regulations that address these concerns and ensure AI technologies are deployed in ways that benefit society as a whole while safeguarding individual rights.

Q3: Stakeholder Perspectives on Ethical and Social Implications of AI Adoption in Public Administration

Table (9): Stakeholder Perspectives on Ethical and Social Implications of AI Adoption in Public Administration

Ethical/Social Concern or Recommendation	Frequency	% of Participants
Emphasis on fairness, accountability, and transparency	15	75%
Concerns about data privacy and cybersecurity	13	65%
Need for clear ethical guidelines and governance frameworks	14	70%

Risk of algorithmic bias and discrimination	10	50%
Social impact awareness (inclusiveness, inequality, trust)	9	45%
Importance of culturally/contextually grounded ethics	5	25%
Regulatory gaps in ethical AI implementation	8	40%
Need for stakeholder collaboration (gov–academia–private)	6	30%
Ethical concerns over employment displacement	5	25%
Advocacy for explainable and auditable AI systems	6	30%

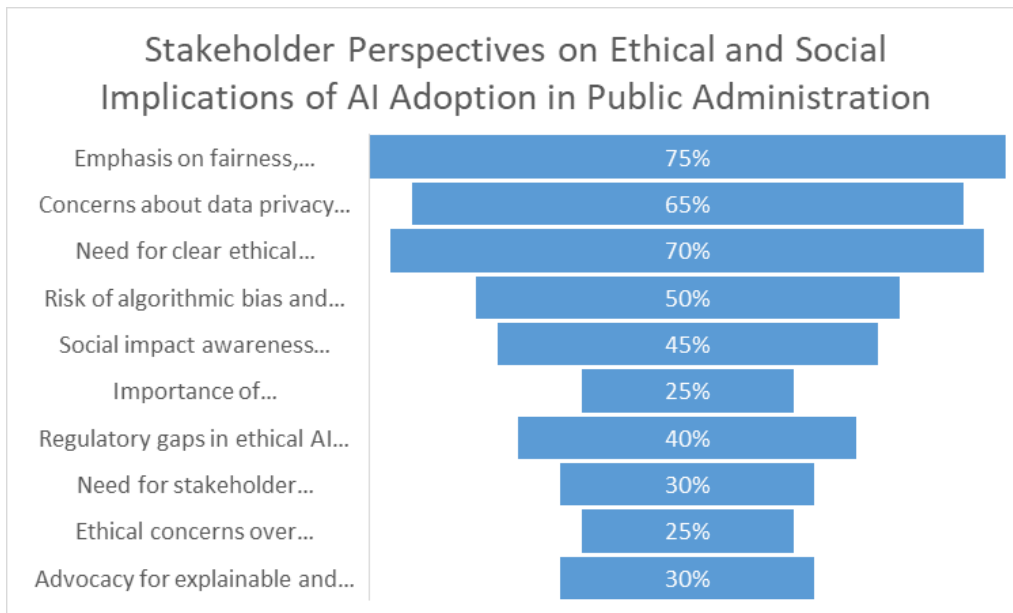


Chart 9: Stakeholder Perspectives on Ethical and Social Implications of AI Adoption in Public Administration

Code 3-2: Lack of Skills

A prominent challenge in the adoption of Artificial Intelligence (AI) within the public administration sectors of both the UAE and Türkiye, as highlighted by the interviewees, is the shortage of the requisite skills among the public sector workforce. This issue emerges as a critical barrier to the successful implementation of AI-driven solutions. Despite both nations' ambitions to position themselves at the forefront of technological innovation, the skill gap remains a significant obstacle in realizing the full potential of AI in government operations. Public sector employees, ranging from managerial staff to operational personnel, often lack the specialized knowledge and expertise required to manage, deploy, and utilize AI tools effectively. This gap is not merely about technical know-how but also includes the broader understanding of how AI can be leveraged within public administration to enhance service delivery, improve decision-making, and streamline operational processes. While the UAE has made substantial investments in educational and training programs for AI, and Türkiye has focused on improving STEM education, both countries still face a considerable challenge in aligning their workforce with the evolving demands of AI integration. This section aims to analyze the specific manifestations of the skills gap in both countries, examining how it impedes the adoption of AI in public administration, the strategies each country is employing to address this challenge, and the implications for the broader goal of digital transformation in governance. Actually, collaborating with private sector companies helps leverage their expertise and resources, which can offset some investment burdens while “enhancing skills and infrastructure within government administration” (Interviewee, Kashif, UAE). This collaboration not only improves operational efficiencies but also aids in training government employees to ensure they are prepared for new technologies. In this vein, the UAE is launching training programs such as “Future Skills to empower national cadres” (Interviewee, Ali, UAE). Acknowledgment that current employees skillsets may not suffice, significant focus on training in areas like machine learning and cryptocurrency. The government is actively investing in reskilling programs to tackle the challenge of lack of skill. Training programs should be designed specifically to upskill government employees, ensuring they possess the requisite skills to adapt to changing technologies, particularly AI. This need for upskilling arises from the recognition that existing skill sets may not be adequate for AI adoption. For example, there are many training programs running on at the UAE, one of them is “JAHIZ- means ready- and this portal was launched maybe 2 or 3 years

ago to train federal employees. They were really putting a lot of emphasis on us to get there and get updated with the new skills because they figured out this current skill set is somehow really not workable as the world is changing, especially due to AI. So, one of the major courses that we were really put a lot of emphasis on us to do that about the machine learning, that was crypto”. (Interviewee, Kashif, UAE) Yet, still there is “lack of qualified personnel in areas such as deep learning regarding to Khalifa University Study in 2021”. (Interviewee, Ali, UAE) Additionally, on the talent development front, “UAE has established Mohamed bin Zayed University for Artificial Intelligence and launched multiple initiatives such as the National Program for Artificial Intelligence and One Million Arab Coders to equip citizens with AI and coding skills”. (Interviewee, Abdulaziz, UAE) Workforce skills, sustainability, and clear ROI are also factors taken into consideration as resisters express concerns about job displacement, particularly in roles vulnerable to automation, and fear a widening skills gap. They worry about the pace of change and the need for extensive reskilling to adapt to AI-driven workflows. Therefore, the government continues to focus on developing the necessary skills to manage AI technologies effectively and address the workforce dynamics that emerge from these advancements, so the “right reskilling processes, and the right project planning are key factors to influence the decision makers in the government”. (Interviewee, Mulla, UAE) In Türkiye, important steps are being taken in the labor market in Türkiye regarding AI training and reskilling. Public officials are being given AI trainings, as AI departments are being opened at universities at undergraduates and graduate levels as well. Therefore, “there is an awareness of AI competence in the public, and I see the perspective of professionals in this direction as encouraging and positive” (Interviewee, Ahemt, Türkiye) Professionals say AI could change the nature of employment by automating some jobs, which is expected to create new skill requirements and the need for continuing education programs to fill “lack of sufficient skilled workforce” (Interviewee, Doğan, Türkiye). Workforce upskilling and reskilling programs are also key, equipping public servants with the necessary competencies to manage AI-driven systems effectively. This strategic framework positions Türkiye as a regional pioneer in AI application and governance. Additionally, “policies supporting research and development, as well as international collaborations, further solidify Türkiye’s commitment to leveraging AI for sustainable governance”. (Interviewee, Fatih, Türkiye) Throughout the conducted interviews, the research infer that the decision makers in

Türkiye acknowledge the need to address potential displacement concerns through proactive retraining and job creation strategies. For instance, initiatives such as the establishment of AI-focused training centers and partnerships with technology firms aim to provide reskilling opportunities for public sector employees. Moreover, “planned programs in collaboration with academic institutions focus on equipping workers with digital competencies, ensuring a smooth transition to AI-integrated workplaces. It’s less about replacing humans and more about upgrading their operating system—to version 2.0, of course” (Interviewee, Fatih, Türkiye). Indeed, stakeholders highlight the importance of citizen-centric AI solutions and comprehensive educational programs to equip the workforce with future-ready skills. The “governmental strategies aim to unlock AI’s potential while ensuring sustainable and equitable public service delivery” (Interviewee, Orhan, Türkiye) Thus, the stakeholders emphasize the role of international partnerships in adopting best practices and aligning Türkiye’s AI policies with global standards as one interviewee (Omer, Türkiye) calls for the coordinated conduct of studies on infrastructure and trained experts and the examples of the “AI Campus” cooperation between France and the UAE should also be taken into consideration for Türkiye. Although, there is a cultural tendency within the bureaucracy that often resists innovation and change. “Some civil servants may feel secure in their positions, which can reduce their innovation to adapt to new technologies to enhance their skills, thereby reinforcing an outdated system. Many bureaucrats in Türkiye are unfamiliar with AI technologies and there a considerable portion of the civil services that lacks basic technological skills in standard applications” (Interviewee, Metin, Türkiye) There are notable challenges in AI adoption, primarily due to “bureaucratic resistance linked to fears of job loss and the preference of established companies for proprietary software solutions over open-source systems, such as Türkiye’s own Pardus operation system”. (Interviewee, Orhan, Türkiye) Despite these obstacles, there is a vibrancy in youth engagement in tech startups, signaling a growing culture of innovation within the country as another interviewee (Mustafa, Türkiye) highlights that AI will make jobs easier, yet require new skills. Zümrüt (Interviewee, Türkiye) believes that “Elite stakeholders increasingly care about the ethical dimensions and social impacts of the adoption of AI technologies in public administration and evaluate them within a multi-layered framework. First of all, the principles of transparency, accountability and justice come to the fore. Stakeholders emphasize that when

AI systems are used in public decision-making processes, providing explanations about how these systems work is critical for citizens' trust in the state". The emergence of situations that may affect individuals' rights, especially in automated decision-making mechanisms, brings up the risks of algorithmic bias and discrimination and creates sensitivity in terms of fair governance. In terms of social impacts, issues such as the transformation of citizen-state relations with the use of AI in public services, the widening of the digital divide and the protection of citizens' privacy rights are frequently mentioned. It is emphasized that AI can have disproportionate effects on certain groups and that vulnerable groups can be disadvantaged. For this reason, it is emphasized that ethical principles such as inclusiveness, accessibility and respect for human dignity should be observed in AI applications. The National AI Strategy of Türkiye, ethically focused guiding principles and public-private sector partnerships are seen as part of this process. As a result, ethical and social impact issues are seen not only as technical but also as normative issues in Türkiye and are tried to be positioned at the center of AI-related policies. In conclusion, the lack of a skilled workforce represents one of the most formidable challenges facing the UAE and Türkiye in their efforts to embed AI within public administration. Although both nations have recognized the importance of building AI competencies within their public sector and have implemented training initiatives, the pace of skill development has not kept up with the rapid advancements in technology. This gap not only slows down the implementation of AI but also threatens the sustainability of digital governance initiatives in the long term. Both countries need to address the skills challenge through long-term strategies that include investing in continuous learning programs, fostering public-private partnerships for skills development, and redesigning public sector recruitment processes to attract AI-literate professionals. In addition to formal education and training programs, cultivating a culture of innovation and adaptability within public administration is essential to overcoming this barrier. As AI technologies continue to evolve, the ability of both the UAE and Türkiye to equip their public sector workforce with the necessary skills will play a crucial role in determining the success of AI-driven public administration initiatives, ultimately contributing to the efficiency, transparency, and effectiveness of governance.

Q9: AI Impact on Workforce Perceptions

Table (10): *AI Impact on Workforce Perceptions*

Perception Category	Frequency (Mentions)	Percentage (%)
AI will automate routine tasks	14	21
Need for workforce upskilling/reskilling	13	19
Concern over job displacement	9	13
Shift to strategic/analytical roles	11	16
Support for public-private training partnerships	7	10
Creation of new AI-related roles	6	9
Perception of AI complementing, not replacing human jobs	8	12

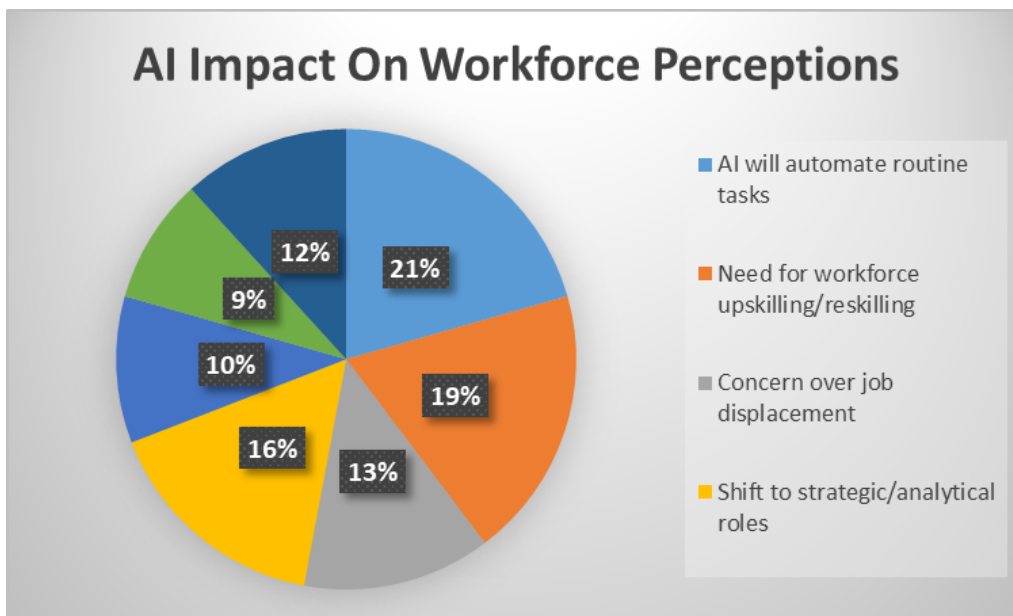


Chart (10): *AI Impact on Workforce Perceptions*

Code 3-3: Investment Dynamics and the Challenge of High Costs

The comparative investigation of investment climates in Türkiye and the United Arab Emirates (UAE) unveils an enduring and multifaceted challenge—namely, the high cost of investment, which has emerged as a critical impediment to the economic vibrancy and long-term sustainability of both nations. Despite their divergent geopolitical contexts, historical trajectories, and regulatory landscapes, Türkiye and the UAE share a commonality in confronting this systemic issue. This study delves into the intricacies of high investment costs, drawing attention to the multifactorial nature of the phenomenon as it manifests within each country. From the perspective of both foreign and domestic investors, the significant financial burden associated with entering and sustaining operations within these markets is shaped by an interplay of infrastructural deficiencies, financial and administrative inefficiencies, and the volatility introduced by policy shifts and regulatory frameworks. Through a comprehensive analysis of qualitative data collected from interviews with key industry stakeholders, this dissertation seeks to elucidate the underlying mechanisms that contribute to the inflated cost of investment in each country. In addition, the study critically compares and contrasts the feedback of interviewees, offering a detailed examination of how investors' perceptions, concerns, and strategic decisions are informed by these costs. The complexity of the investment landscape is not merely a byproduct of external economic forces, but also a direct consequence of domestic political stability, institutional trust, and economic governance. Policymakers should “invest in AI research, foster international collaborations, and implement AI impact assessment mechanisms” (Interviewee, AbdulKareem, UAE). For instant, the UAE huge investment in infrastructure along with “strategic partnership with key players such as ORACLE & Microsoft” (Interviewee, AbdulAziz, UAE) is one of the policies being considered by leaders to promote the successful integration of AI technologies in public administration, yet still there is a need for an appropriate investment in infrastructure and data to enhance AI-empowered tools adoption. While another interviewee (Mulla, UAE) states that “the UAE’s proactive approach includes establishing a ministry for AI and creating training hubs, which suggests a focus on developing a knowledgeable workforce. This investment in human capital is critical for driving innovation and enhancing economic growth through technology”. Despite the potential benefits of AI-adoption, an interviewee (Zarouni, UAE) acknowledged the complexities and challenges of implementing generative AI, such as risks related to errors,

mood-like behaviors of AI systems, and ongoing hardware investment uncertainties”. In order to facilitate the effective implementation of AI technologies in public administration in the UAE, an interviewee (AlAli, UAE) calls for developing “clear AI strategies, investing in education and training, ensuring data privacy and security as well”. Despite the considerable challenges highlighted by the interviewees, particularly the high investment costs, it is evident that the UAE has demonstrated a strong capacity to navigate and manage these obstacles effectively. AlAli adds that “the UAE aims to establish itself as a powerhouse in AI, attracting talent and investments while enhancing the perception of AI’s value in decision-making and service delivery. The overall vision includes enhancing collaboration among entities and fostering a robust AI ecosystem”. The country’s strategic focus on diversifying its economy, coupled with its continued investment in world-class infrastructure and innovative economic policies, positions the UAE as a resilient and attractive investment destination. While the costs associated with establishing and operating a business remain significant, the government has been proactive in mitigating these barriers through the introduction of tax incentives, free trade zones, and investor-friendly reforms aimed at reducing financial burdens. Furthermore, the UAE's stable political environment, coupled with its global connectivity and forward-thinking governance, enables it to offer a conducive ecosystem for long-term investments. Despite the high upfront costs, the UAE’s ability to streamline regulatory processes and provide investors with a robust support system ensures that the country remains committed to fostering sustainable economic growth and managing investment challenges efficiently. This proactive approach underscores the UAE's determination to attract and retain foreign investments, proving that, despite the inherent challenges of high investment costs, the country is not only capable of managing these issues but is also taking strategic steps to ensure its continued investment competitiveness in the global market. In Türkiye, investors frequently reported difficulties in navigating the fragmented and at times inconsistent regulatory environment. Interviewees in Türkiye expressed concerns about the impact of political instability and economic fluctuations on investment decisions (Interviewee, Oya, Türkiye). Several investors cited the unpredictability of policy shifts, particularly during periods of political transition or economic crisis, as a significant source of risk. These concerns were often linked to higher transaction costs, as businesses must account for potential disruptions in operations or sudden

changes in economic policies. In Türkiye, despite substantial investments in infrastructure, respondents noted that certain regions still lack the necessary facilities to support large-scale investment as an interviewee (Doğan, Türkiye) calls “leaders to recommend policies such as infrastructure investments”. Among the various challenges related to high investment costs, one Turkish interviewee emphasized the critical need for targeted investments in education and human resources as a long-term solution to alleviate some of these financial barriers. As stated, "Investments in education and human resources should be made to increase AI capacity in public institutions." (Interviewee, Kocaoğlu, Türkiye) This statement highlights an essential factor in reducing the operational costs of investing in sectors such as artificial intelligence (AI). By bolstering the skills and capacities within public institutions, Türkiye could mitigate the costs associated with acquiring and training specialized talent, thereby improving overall efficiency in the long term. This strategy not only addresses the immediate cost challenges but also fosters sustainable growth by creating a more capable and competitive workforce, ultimately reducing the reliance on expensive foreign expertise and enhancing the attractiveness of Türkiye’s investment environment. As one interviewee highlighted, the high investment costs associated with AI adoption are a key challenge in Türkiye, especially given the significant financial hurdles faced by SMEs, which form the backbone of the country's business landscape. Many small and medium-sized enterprises struggle to allocate the necessary funds for the infrastructure required to implement AI solutions. “This challenge is particularly pronounced because SMEs, which represent over 99% of businesses in Türkiye, often operate with limited capital reserves and find it difficult to access affordable financing. The interviewee emphasized that addressing these financial barriers is crucial for ensuring that AI adoption can be widely embraced across the country.” (Fatih, Türkiye) He adds that the “Turkish government has also introduced targeted incentive programs for R&D investments that can help offset some costs. What we need is a balanced approach that combines strategic government support, private sector innovation, and educational investments to create an AI ecosystem that builds on Türkiye’s strengths while addressing our unique economic circumstances”. Another interviewee emphasized that while high investment costs in AI adoption present a significant challenge in Türkiye, these costs can be strategically managed through a well-planned approach. Ayşegül (Türkiye) pointed out that “the long-term return on investment (ROI) from AI—such as cost savings, increased

efficiency, and a competitive advantage—makes the initial investment more justifiable over time. Furthermore, she highlighted that government support, particularly through institutions like TÜBİTAK, KOSGEB, and Technoparks, provides funding and incentives that can help offset some of the financial barriers”. Elite public administration professionals in Türkiye consider the impact of AI on workforce dynamics, job roles, and skill requirements in the public sector to be transformative but a process that needs to be managed carefully. The general consensus is that AI technologies will enable public services to be carried out more efficiently, quickly, and in a data-driven manner; thus, routine and repetitive tasks can be transferred to automation and human resources can be directed to more strategic and analytical functions. However, one of the most critical issues in this transformation process is to align the competencies of existing personnel with AI. Zümrüt (Interviewee, Türkiye) mentions that the “elite actors state that skills such as digital literacy, data analytics, understanding algorithmic decision support systems, ethical awareness, and system oversight are becoming increasingly important for public personnel. In this context, a consensus has emerged that job descriptions in public institutions should be restructured, human resources policies should be updated, and professional development programs should be aligned with AI”. It is particularly emphasized that AI should not completely replace the human factor, but rather that technology should be positioned to support humans. At this point, systematic provision of training, reskilling and continuous professional development opportunities will increase both social acceptance and institutional resilience of public institutions. In summary; the impact of AI on the public workforce is seen not only as a technological adaptation but also as a multi-layered transformation with cultural, managerial and ethical dimensions. Therefore, the impacts of AI on the workforce should be addressed in coordination with strategic workforce planning, comprehensive education policies and comprehensive human resources management. The interviewee also mentioned that affordable solutions, such as cloud-based AI platforms and open-source tools, are increasingly available, which significantly reduce the need for expensive infrastructure. To further mitigate risk, she suggested implementing AI in a phased manner, starting with small, targeted projects that allow organizations to gradually scale their AI efforts. Finally, the interviewees from Türkiye emphasized the importance of collaboration with universities and startups, which can provide cost-effective innovation and help bring down the overall cost of AI adoption. By adopting

a smart, phased approach, she argued, AI adoption can become more feasible and beneficial for businesses and public institutions in Türkiye.

Q8: Key Factors Influencing AI Adoption Decision-Making

Table (11): *Key Factors Influencing AI Adoption Decision-Making*

Key Factor	Frequency (n=22)	Percentage (%)
Strategic Alignment (Vision 2030, SDGs)	10	46
Workforce Skills and Capacity	10	46
Cost and ROI	9	41
Ethical and Legal Compliance	9	41
Data Quality and Infrastructure	8	36
Public and Social Acceptance	7	32
Cybersecurity	6	27
Institutional Capacity	6	27
Collaboration with Academia and Private Sector	5	23
Quality of Implementation (Design, Output, etc.)	4	18

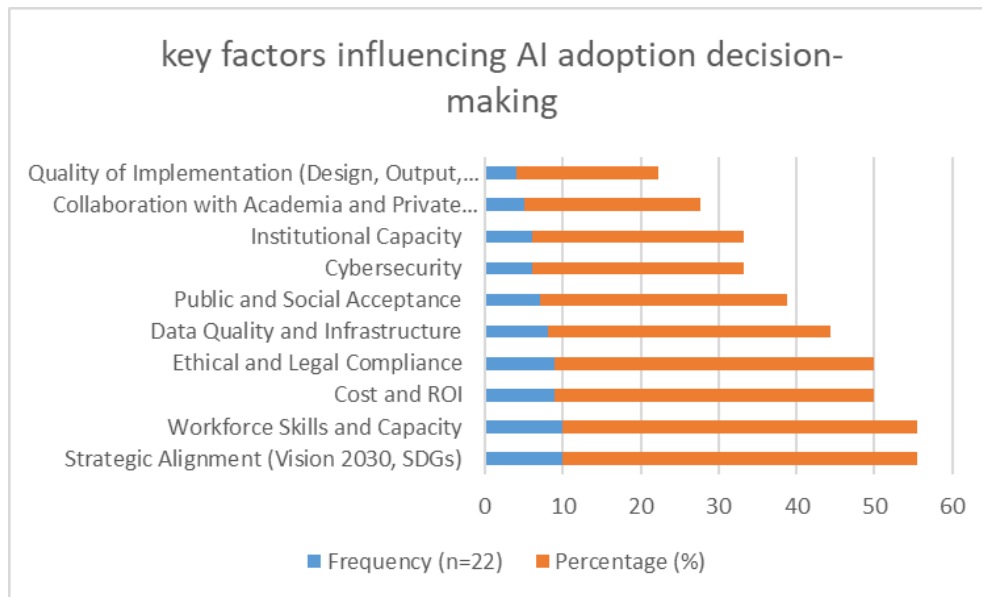


Chart 11: Key Factors Influencing AI Adoption Decision-Making

The decision-making process regarding the adoption of AI in public administration requires a multi-dimensional and strategic assessment. The key factors prioritized in this process include institutional capacity, data infrastructure, ethical and legal compliance, social acceptance, stakeholder interaction, and financial sustainability. Although these factors stand out at different levels depending on the type of application and the strategic goals of the public institution, the general trend is that strong political ownership and centralized direction are decisive in success. Another critical factor is the adequacy of institutional capacity and human resources. In order for AI solutions to be implemented effectively, not only technical infrastructure but also qualified personnel, project management skills, digital awareness, and governance mechanisms are required. “Many public institutions in Türkiye are in the process of development in these areas, and therefore capacity building is a high priority in the decision-making process. Issues related to data infrastructure are equally important; since AI systems require reliable and holistic data sources, the quality, accessibility, security, and share ability of data among public institutions constitute critical decision points. On the other hand; the ethical, legal, and social dimensions of AI applications are also increasingly important by public administration leaders in Türkiye” (Interviewee, Zümrüt, Türkiye). In particular, principles such as transparency, accountability, impartiality, data privacy and protection of human control are among the fundamental values considered when making

implementation decisions. Similarly, social aspects such as the impact of AI technologies on citizens, public perception and digital inclusiveness are also important factors taken into consideration. Goals such as increasing citizen satisfaction, reducing the digital divide and providing fair access to public services are evaluated not only as technological but also as social responsibility requirements, which add new dimensions to the decision-making process. Finally, economic factors such as financial sustainability, resource allocation and investment return expectations are also taken into account in terms of scalability of AI solutions. When all these factors are evaluated together, decisions to adopt AI in public administration are shaped as a strategic, multi-level and cautious process in Türkiye; success depends on the ability to establish a balance between these factors.

In conclusion, the comparative analysis of the high investment costs in Türkiye and the UAE presents a compelling portrait of the multifarious obstacles that continue to hinder both countries' aspirations to establish themselves as prominent investment destinations. The findings derived from the interviewees' feedback reveal that while the UAE has made commendable progress through targeted economic reforms, such as the establishment of free trade zones, tax incentives, and investment-friendly policies, the country is not immune to its own set of challenges. These include the high costs associated with infrastructure development, the complexities of navigating regulatory approval processes, and the fluctuating external economic conditions that threaten the stability of even the most robust investment projects. Conversely, Türkiye's challenges are far more deeply entrenched, often exacerbated by the unpredictability of its political landscape, institutional fragility, and an over-reliance on external capital that renders the investment climate volatile. The interview data further suggests that investors in Türkiye face heightened concerns regarding the opacity of regulatory frameworks, inconsistent policy enforcement, and a lack of coordination between central and local authorities—factors that cumulatively inflate the cost of doing business.

What emerges from this comparative study is that while both countries exhibit a growing cognizance of the need to address these high investment costs, their approaches to mitigating these challenges differ considerably. The UAE, with its highly centralized governance

structure and robust financial sector, seems better positioned to implement swift reforms aimed at lowering the barriers to investment. Meanwhile, Türkiye, despite its strategic position at the crossroads of Europe and Asia and its rich human capital potential, faces greater systemic obstacles that require deeper institutional reforms and enhanced policy predictability. Nonetheless, the interviews highlight a common theme: the high cost of investment in both countries is not merely a financial burden, but a significant strategic consideration for investors, influencing their decisions on market entry, risk assessment, and long-term planning. Therefore, this dissertation posits that while high investment costs remain a critical challenge, both Türkiye and the UAE possess considerable potential to overhaul their investment climates through targeted and cohesive reforms, focusing on enhancing transparency, regulatory stability, and infrastructural efficiency. Such reforms would not only alleviate the immediate barriers to investment but would also set the stage for sustainable economic growth, positioning both countries more competitively in the global marketplace. As such, the resolution of investment cost challenges stands as a pivotal undertaking for each nation, with profound implications for their broader economic trajectory and their integration into the increasingly interconnected global economy.

CONCLUSION

The integration of Artificial Intelligence (AI) into public administration marks a transformative epoch in the evolution of governance systems. This dissertation has investigated the profound implications of AI implementation in government institutions, offering a comparative analysis of two strategically significant states—Türkiye and the United Arab Emirates—over the critical period between 2018 and 2024. The inquiry, grounded in the Technology Acceptance Model (TAM) and enriched by complementary institutional and ethical governance frameworks, sought to uncover how the political, administrative, and technological contexts in each country have shaped AI strategies, practices, and outcomes. Through extensive qualitative research including elite interviews and document analysis, the study has generated a multi-layered understanding of AI's role in reshaping the machinery of governance, public service delivery, and state–society relations.

The research demonstrates that AI does not operate in a political or institutional vacuum. On the contrary, its integration into the public sector is conditioned by a constellation of factors, including administrative traditions, governance philosophies, institutional capacity, and regulatory preparedness. The UAE's centralized, visionary, and politically coherent approach to AI governance stands in contrast to Türkiye's more decentralized, adaptive, and fragmented trajectory. The UAE's institutionalization of AI through the creation of a ministerial portfolio, long-term national AI strategy, and cross-sectoral investment has enabled rapid adoption in domains such as health diagnostics, transportation, and administrative optimization. In contrast, Türkiye's AI implementation has proceeded through ministerial and agency-specific initiatives, often hindered by inter-organizational fragmentation, limited fiscal space, and ongoing regulatory development.

Institutional capacity emerged as a critical enabler and differentiator between the two national approaches. The UAE has successfully developed integrated digital infrastructure, robust data ecosystems, and coherent AI implementation pathways, which have facilitated tangible improvements in efficiency, responsiveness, and citizen satisfaction. Türkiye, while making substantial progress through platforms such as e-Devlet and data-driven public services, faces uneven development and regulatory gaps across institutions. These disparities

illustrate that technological readiness alone is insufficient; it must be complemented by administrative coherence, inter-agency collaboration, and forward-looking regulatory alignment. This comparative insight is especially pertinent to other emerging economies that aim to integrate AI without possessing a monolithic or highly centralized governance system.

Equally significant are the ethical, societal, and normative dimensions that accompany the diffusion of AI into public institutions. Both countries confront common concerns regarding algorithmic bias, transparency of automated decision-making, data privacy, and the implications for public employment. The study's findings indicate that, while the UAE has taken proactive steps in formulating ethical AI principles and embedding privacy-by-design frameworks, enforcement mechanisms remain underdeveloped and citizen engagement in shaping such frameworks is minimal. Türkiye, aligning itself with European regulatory paradigms, has advanced discussions on algorithmic accountability and digital rights, yet still faces challenges in embedding these norms into daily administrative practice. Civil society participation in AI governance remains limited in both contexts, thereby raising questions about inclusivity, procedural legitimacy, and democratic oversight.

Through the application of the Technology Acceptance Model (TAM), the study further explores how perceptions among public officials—regarding AI's usefulness, ease of use, and trust in institutional frameworks—influence adoption behavior. In the UAE, a strong political mandate, coupled with the demonstrable success of early AI projects, has contributed to high levels of institutional trust and enthusiasm among government employees. Türkiye, however, presents a more complex picture: while public managers recognize the potential of AI to modernize public services and improve outcomes, their optimism is moderated by apprehensions about data misuse, administrative inertia, and the long-term impact on workforce security. Notably, public perceptions in both countries reflect a cautious optimism—AI is welcomed where it simplifies and improves public services but is viewed with suspicion in domains involving surveillance, predictive policing, and automated welfare determinations. These findings underscore the need for governments to prioritize transparency, communication, and citizen-centered design in AI implementation.

This dissertation contributes to the theoretical literature by enhancing the explanatory power of TAM through its integration with institutional theory, ethical AI governance models, and

Salamon's Tools of Governance framework. While TAM provides a valuable micro-level perspective on technology adoption, its utility is significantly augmented when placed within the broader macro-political and organizational context. By applying institutional theory, the study reveals how AI adoption is not merely a product of individual attitudes but also the result of organizational norms, legal structures, and administrative hierarchies. The inclusion of Salamon's governance tools allowed for a systematic assessment of AI-based interventions in terms of effectiveness, equity, manageability, and political feasibility—offering a multi-dimensional framework for evaluating digital transformation in the public sector. This theoretical fusion provides a more holistic lens for understanding how AI operates as both a technological instrument and a governance paradigm.

The research also carries important implications for practice. First, it highlights that political leadership and vision are fundamental in catalyzing and sustaining AI innovation in government. The UAE exemplifies how centralized leadership, strategic foresight, and dedicated institutions can drive rapid transformation. However, this must be balanced with mechanisms for oversight, inclusion, and ethical scrutiny. Second, legal frameworks need to be adaptive and anticipatory. Static regulations are ill-suited to the pace of AI evolution; instead, agile, principle-based legal systems—grounded in accountability, transparency, and proportionality—are essential to ensure that innovation does not compromise democratic values. Third, investments in digital literacy, workforce development, and capacity-building are not optional but necessary conditions for success. The fear of technological redundancy among public servants is not unfounded and must be addressed through structured training, career mobility pathways, and organizational transformation. Fourth, the research emphasizes the centrality of public trust. AI systems that are opaque, unaccountable, or seen as instruments of control risk eroding rather than strengthening state legitimacy. Governments must therefore cultivate participatory governance models, engage civil society, and design AI systems that are intelligible and contestable.

From a policy perspective, several recommendations emerge. National AI Ethics Councils should be established as independent regulatory bodies with the authority to certify, monitor, and guide AI applications in the public sector. These councils should include diverse stakeholders—government officials, ethicists, technologists, legal scholars, and civil society

actors—to ensure balanced deliberation and legitimacy. Furthermore, governments should institutionalize the use of AI impact assessments (AIAs) before deploying high-risk systems. These assessments should evaluate social, ethical, legal, and economic risks, particularly for applications involving vulnerable populations or fundamental rights. Open government data initiatives must be expanded, with an emphasis on interoperability, standardization, and third-party algorithm auditing. Regional and municipal innovation should also be incentivized; decentralizing AI experimentation can uncover local solutions while fostering bottom-up innovation. Finally, learning and evaluation must be continuous. AI governance should not be treated as a one-time reform but as an iterative, reflexive process that evolves with technological, societal, and legal developments.

Despite its contributions, this dissertation is not without limitations. Its qualitative focus, while offering depth and contextual richness, may limit generalizability across broader populations or longer time horizons. The reliance on elite interviews means that the voices of frontline bureaucrats, citizens, and marginalized groups are less represented. Moreover, the fast-changing nature of AI technology implies that some findings may become quickly outdated as new capabilities and governance models emerge. The study also does not delve deeply into regional or local-level dynamics within Türkiye and the UAE, which could reveal further heterogeneity in implementation, capacity, and outcomes. These limitations point to the need for complementary research designs that integrate quantitative analysis, survey-based citizen perspectives, and cross-regional comparisons.

Future research could advance the field in several directions. Longitudinal studies would be valuable to examine how AI policies evolve, institutionalize, or face rollback over time, especially in response to political shifts or technological disruptions. Comparative studies could be expanded to include countries in the Global South, where resource constraints and governance challenges may pose unique barriers to AI integration. Sector-specific studies focusing on domains such as education, urban planning, environmental sustainability, and public security would yield granular insights into the policy–technology interface. Mixed-methods approaches that combine ethnographic fieldwork with computational policy analysis can offer a richer understanding of how AI systems function in practice and how they are experienced by end-users. Additionally, exploring the intersection between AI and

democratic innovation—such as participatory algorithms, digital deliberation, and algorithmic accountability mechanisms—could open new research frontiers in public administration and political science.

Ultimately, this dissertation affirms that AI is more than a tool; it is a political force with the capacity to reshape state structures, redefine public value, and recast the relationship between citizens and the state. Its implications reach far beyond efficiency and optimization, touching upon foundational principles such as justice, accountability, transparency, and legitimacy. The experiences of Türkiye and the UAE illustrate that the trajectory of AI in public administration is not determined solely by technological capacity but is deeply embedded in institutional configurations, political priorities, and social norms. In this context, the future of AI governance demands an ethos of responsibility, vigilance, and inclusivity. It is not enough to ask whether governments can implement AI; the more profound question is whether they can do so in ways that enhance, rather than erode, democratic governance and public trust.

In conclusion, the integration of AI into public administration represents both an unprecedented opportunity and a critical challenge for governments worldwide. If harnessed judiciously, AI can become a powerful instrument for promoting more responsive, equitable, and accountable governance. However, without principled guidance, inclusive governance structures, and a commitment to human dignity, AI risks amplifying existing inequities and creating new forms of technocratic domination. This dissertation contributes to an emerging body of scholarship that seeks to navigate this complex terrain, offering a comparative, theory-informed, and policy-relevant analysis of AI's impact on public governance. As the technological frontier continues to evolve, it is imperative that scholars, policymakers, and public administrators remain critically engaged, ensuring that the digital state of the future remains anchored in the values of transparency, participation, justice, and democratic resilience.

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Appendix A

Interviews` Questions

Interviewee Name:

Interviewee Job Position:

1. How do high-ranking government officials perceive the potential benefits of AI adoption in public administration in Türkiye/ UAE?
2. What are the key challenges and barriers faced by decision-makers in implementing AI technologies in government operations in Türkiye/UAE?
3. How do stakeholders in public administration assess the ethical considerations and social implications of AI adoption in government services in Türkiye/UAE?
4. What strategies and policies are being considered by leaders to promote the successful integration of AI technologies in public administration in Türkiye/UAE?
5. How do professionals in public administration perceive the impact of AI adoption on decision-making processes, service delivery, and resource allocation in government agencies in Türkiye/UAE?
6. What are the attitudes and perceptions of stakeholders towards AI technologies in public administration, how do these influence their willingness to adopt and utilize AI solutions in government operations?
7. How do elite leaders in public administration view the role of AI in enhancing citizen engagement, improving service quality, and promoting transparency in government services in Türkiye/UAE?
8. What are the key factors influencing the decision-making process regarding AI adoption in public administration, and how do decision-makers prioritize these factors in Türkiye/UAE?
9. How do professionals perceive the potential impact of AI adoption on workforce dynamics, job roles, and skill requirements in public administration in Türkiye/UAE?

10. What are the recommendations and insights provided by experts for policymakers and government officials to facilitate the effective implementation of AI technologies in public administration in Türkiye/UAE?

Appendix B

IRB Approval



T.C.
İSTANBUL MEDENİYET ÜNİVERSİTESİ REKTÖRLÜĞÜ
Rektörlük

Sayı : E-38510686-050.04-2400079350
Konu : Renad H. Y. Almajdalawi'nin
Başvurusu

09.12.2024

İlgili Makama,

İMÜ Sosyal ve Beşeri Bilimler Etik Kurulu'nun 26.11.2024 tarihli oturumunda, İMÜ Lisansüstü Eğitim Enstitüsü (Siyaset Bilimi ve Kamu Yönetimi) doktora öğrencisi **Renad H. Y. Almajdalawi**'nin "The Potential Impacts of Using Artificial Intelligence on Public Administration Comparative Study: Turkey & UAE (2018-2023)" başlıklı doktora tezi kapsamında (dan. Prof. Dr. Hamza Ateş) veri toplanmasına yönelik araştırma dosyası görüşülmüş, içerik bakımından etik bir sorun bulunmadığı sonucuna varılarak kurulun 2024/10 sayılı ve 26.11.2024 tarihli kararıyla, araştırmacının izin talebi uygun bulunmuştur.

Prof. Dr. Tuncay BAŞOĞLU
Sosyal Ve Beşeri Bilimler Bilimsel Araştırma Ve Yayın Etiği Kurul Başkanı

Belge Doğrulama Kodu: PP9TEUU

Bu belge, güvenli elektronik imza ile imzalanmıştır.

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