TeMA

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There are a number of different future-city visions being developed around the world at the moment: one of them is Smart Cities: ICT and big data availability may contribute to better understand and plan the city, improving efficiency, equity and quality of life. But these visions of utopia need an urgent reality check: this is one of the future challenges that Smart Cities have to face.

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SMART COMMUNITIES
BETWEEN E-GOVERNANCE AND SOCIAL PARTICIPATION

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SMART COMMUNITIES BETWEEN E-GOVERNANCE AND SOCIAL PARTICIPATION

ROCCO PAPA
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In a knowledge-based socioeconomy driven by technological change and innovation, new challenges are emerging. New information and communications technologies (NICT) are shaping the way people live, communicate, and work. Accordingly, innovative model of governance are needed with greater connectivity being facilitated by new technology; consequently, application of NICT in the local context leads to economic, social, and political transformations within the new smart community movement.

This second issue of the volume 7 of TeMA Journal of Land Use, Mobility and Environment focuses on this theme of e-governance and smart communities. In more details, the attention is put towards both the role of new information and communications technologies in the planning practice and on the ways society and citizen behavior has changed in the lasts decades, by mean of smart technologies.

In the FOCUS section three articles have been selected. The first article is named “Participation and Governance for more Human Smart Cities” by Gabriella Pultrone and analyses the concepts of participation and e-governance for more human cities. It starts from the idea that participation and governance are keywords on which to focus for a city conscious of its rich human and social capital, in which people are the real drivers of innovation and co-designers responsible for a smart city more humane and inclusive.

The second article titled “Social Mobile Marketing Evolution of Communication Strategies in the Web 2.0 Era” by Stefano Franco has the purpose of understanding how small organizations can utilize networks that characterize new trends in marketing and provide some reflections on the future evolution of the research in this field. The third article by Giuseppe Trieste e Silvia Gabrielli is titled “Accessibility in Smart Cities” and question if the smart city is also an inclusive city.

The section Land-use, Mobility and Environment collects two articles of the broader theme of integration between mobility, urban planning and environment. The article “The Determinants of Transportation Mode Choice in the Middle Eastern Cities: The Kerman Case, Iran” by Hamid Soltanzadeh and Houshmand E. Masumi, gives insights on the determinants of transportation mode choices and decisions under the influence of regional and cultural aspects. The paper outlines such determinants in the Iranian city of

Kerman as a representative of the similar Middle Eastern cities located in hot-arid climates and Moslem cultures. The descriptive analysis of the results derived from a short survey that was a part of a larger study conducted in the second half of 2013 indicated that adding to accessibility to public transportation and the convenience of using it can persuade people to shift from car driving to public transit use. The main barriers to bicycling are sociocultural aspects, while for walking the obstacles are physical and environmental. Increasing the quality of pedestrian infrastructure and spaces is a stronger deterrent than personal attitudes against walking. Such findings show slight dissimilarities from the results of some of the western studies that find the built environment more effective. In the same section, the article by G.K. Sinniaha, M.Z. Shahib, G. Vigarc, P.T. Aditjandrad titled "Residential Location Preferences: the significance of socio-cultural and religious attributes", has the aim to explore residential location preferences and how they are related to travel behavior. The study suggests social and cultural issue such as racial diversity which is literally to be a significance context. The case study reported is based on Iskandar Malaysia's development region. Reliability Analysis and Factor Analysis are applied to determine that religious and culture are influential in terms of residential location preferences. These findings add a different perspective on travel behavior studies, which are heavily dominated by researches from Western Europe, North America and Australasia. It is suggested that transport researchers need to reject universal conclusions and be clearer about the contexts in which their findings most applied and multi-cultural scenarios to consider cultural and religious factors more extensively.

Finally the Review Pages define the general framework of the theme of Smart City Environmental Challenges with an updated focus of websites, publications, laws, urban practices and news and events on this subject.

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PARTECIPAZIONE E *GOVERNANCE*

PER SMART CITIES PIÙ UMANE

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ABSTRACT

The smartness seems to be the decisive factor that can enable the contemporary city to face a period of deep economic and social crisis, greater awareness of the scarcity of environmental resources and the increasing demand for security, health, education, technological progress.
The so called 'new urban question' is structured around issues which are difficult to separate such as social inequalities, climate change, the right to accessibility, with respect to which the smart perspective is an opportunity that must be used by territories and cities for the construction of development strategies based on the fundamental and inseparable dimensions of sustainability (environmental, economic, social) and on a more complex transdisciplinary approach with real effects on quality of life.
The same concept of smart city - initially with a pure energetic and technologic valence - has taken on a wider and more varied meaning, aimed at understanding the satisfaction of real and emerging needs, and contemplate the active involvement of the various urban actors, transforming the public institution from "provider" to "enabler", i.e. facilitator and promoter of development.
Participation and governance are therefore the keywords on which to focus for a city conscious of its rich human and social capital, in which people are the real drivers of innovation and co-designers responsible for a smart city more humane and inclusive. The ongoing experiments in this direction at the European level provide interesting insights to envision desirable future scenarios not too far away.

KEYWORDS:
Governance; Human Smart City; Innovation; Participation; Quality of Life

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您的参与和管理让城市更加人性化

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摘要

现代城市已经进入经济和社会危机深度发酵的时期，环境资源的耗尽和人们对安全、健康、教育和科技进步的需求已经是普遍的共识，那么“智能化”是解决上述问题的关键所在。贝尔纳多-赛基（Bernardo Secchi）先生所指的“城市新课题”与社会不公平、气候变化、城市居住权利等问题密不可分，但相比较而言“智能”是城市和地区根据城市现有规模和可扩展规模、城市承载能力（环境、经济、社会）以及生活质量的具体效果等综合因素制定发展战略的出发点。“智能城市”的概念基于完美地利用能源和科技进步，它是一种包罗万象的内涵和逻辑，旨在满足市民的迫切需求和现实需求，并思考如何将城市的各种“因素”有机结合起来，让城市变成一个公共机构，扮演一个提供服务的“供应商”、推动和促进发展的“促成者”角色。“参与和管理”是一个人口资源和社会资源丰富的城市瞄准的两个关键词，在这个过程中人就是智能城市创新的发动机和智能城市设计的参与者。我们在这个领域的经验处于欧洲先进水平，能够启发您预见不那么遥远的未来的画面。

关键词
管理，人性化智能城市，创新，参与，生活质量

1 LA SMART CITY COME RISPOSTA INNOVATIVA ALLA SFIDE URBANE?

Il fenomeno urbano contemporaneo tende a divenire sempre più complesso in quanto ambito di interazione di una grande eterogeneità di elementi che, oltre a riguardare le dimensioni sociale, umana, i fattori fisici e geografici, comprendono altri fattori che, pur presenti in passato, tendono ad acquistare un peso sempre maggiore, quali le tecnologie (soprattutto quelle che rendono possibile l'interazione a distanza come le ICTs), le immagini, rappresentazioni, le procedure, gli schemi organizzativi che, come un software, costituiscono un presupposto del buon funzionamento dei sistemi socio-spaziali (Amin & Thrift, 2001).

È pertanto necessario un approccio che vada oltre gli involucri disciplinari e settoriali per affrontare le questioni globali, difficilmente separabili, legate alla profonda crisi delle economie e delle società industriali, al cambiamento climatico, alla scarsità delle risorse ambientali, alle diseguaglianze sociali, alla crescente domanda di sicurezza, salute, istruzione, partecipazione, progresso tecnologico.

Al tempo stesso, i processi globali rafforzano il ruolo delle città, che possono cogliere l'opportunità di partecipare all'economia globale, in cui la conoscenza diventa risorsa chiave e fonte principale di vantaggio competitivo anche in caso di città medie e piccole che abbiano la capacità di agganciarsi alle reti globali, con riflessi importanti sul sistema produttivo locale e sulla configurazione fisica e sociale, avviando relazioni virtuose fra nuove tecnologie e trasformazioni del territorio in un'ottica di pianificazione integrata.

Il percorso verso la nuova dimensione di *smart city* richiede, infatti, processi di governo delle trasformazioni urbane e territoriali attraverso azioni di indirizzo compatibili con le risorse e le vocazioni dei sistemi urbani e territoriali di riferimento (Fistola, 2013).

In un quadro così articolato, si ritiene che partecipazione e governance siano le parole chiave su cui puntare per una città consapevole del suo ricco capitale umano e sociale, in cui le persone costituiscano i veri motori dell'innovazione come co-progettisti responsabili di città 'intelligenti' in quanto più umane e inclusive, dove i 'luoghi reali' non siano soppiantati dai 'luoghi virtuali' né i rapporti umani interpersonali e le relazioni sociali sostituiti dalle connessioni sulla rete web, ma prevalga un approccio orientato alla centralità della dimensione umana (Gargiulo, Pinto & Zucaro, 2013; Marsh, 2013; Papa, Gargiulo & Galderisi, 2013).

Città e aree urbane, infatti, se da un lato sono i luoghi in cui si addensano e amplificano i problemi, sono soprattutto i luoghi dell'innovazione, oltre che risorse riciclabili e rinnovabili, con enormi potenzialità di trasformazione atte a conferire più diffusa porosità, permeabilità, accessibilità e a costruire spazi pubblici di qualità, riducendo divari e diseguaglianze sul piano fisico-spaziale, sociale ed economico (Secchi, 2013).

In definitiva, la città è l'arena principale delle sfide per la qualità della vita e le politiche urbane sono il terreno su cui si mediano gli aspetti positivi e negativi dei processi di globalizzazione.

In queste dinamiche di trasformazione complesse e articolate la partecipazione e la capacità di *governance* – che secondo la definizione del Programma di Sviluppo delle Nazioni Unite comprende i complessi meccanismi, processi e istituzioni attraverso i quali i cittadini e i gruppi articolano i loro interessi, mediano le loro differenze ed esercitano i loro diritti ed obblighi legali – giocano un ruolo determinante nell'implementazione e nell'efficacia di politiche di promozione di modelli di sviluppo sostenibile, laddove le città interagiscano con i contesti nazionali ed internazionali e declinino le loro risposte a livello locale in base alle proprie risorse e alla propria vocazione (Vicari Haddock, 2004).

Considerato che gli studi più recenti su innovazione e competitività dimostrano le relazioni fra innovazione e crescita economica (World Economic Forum, 2012), in fase di definizione delle strategie più efficaci per affrontare le sfide economiche, sociali e ambientali del XXI secolo, nei documenti di indirizzo, nei programmi, nelle politiche, nei piani, nei progetti ai diversi livelli territoriali e istituzionali, è ricorrente il termine *smart* come attributo in grado di garantire di per sé una soluzione efficace ai problemi urbani.

La questione è in realtà più complessa e lo stesso termine *smart city* – inizialmente a valenza prettamente energetica e tecnologica – ha assunto una connotazione più ampia e variegata, tendente a includere il soddisfacimento dei bisogni reali ed emergenti del cittadino e a contemplare il coinvolgimento attivo dei vari attori urbani, trasformando l'ente pubblico da *provider* (fornitore di servizi) a *enabler* (facilitatore e promotore di sviluppo).

Infatti, poiché i settori primari di intervento (pianificazione e gestione territoriale; ciclo produzione-distribuzione-consumo energetico; trasporto di merci; mobilità delle persone; gestione del consumo degli edifici; istruzione; sanità; rifiuti; fruizione del patrimonio culturale e il turismo) sono ad alto impatto con interrelazioni complesse, per la loro programmazione e gestione sono necessarie opportune modalità di coordinamento fra soggetti pubblici e privati e condivisione delle scelte con la cittadinanza.

A livello internazionale, una città in grado di pianificare coerentemente l'integrazione di queste componenti con l'ausilio delle tecnologie dell'informazione e della comunicazione (ICT) al fine di migliorare la qualità della vita, la gestione dei processi urbani e uno sviluppo equilibrato e sostenibile, viene identificata come *smart city*, un paradigma che in Europa ha come politiche di riferimento l'*Agenda Digitale* e la *Strategia 20-20-20*. Numerose sono le esperienze divulgate sul web attraverso piattaforme intese come luogo di incontro e scambio di metodologie e strumenti, con l'obiettivo principale di riuscire a migliorare gli stili di vita e di comunicazione, grazie all'ausilio del *problem solving* atto a guidare le comunità urbane a risolvere i problemi in forme cooperative.

In sostanza, in questa sede si rimarca che la *smart city* è fatta, oltre che di tecnologie, soprattutto di persone alle quali spetta un ruolo attivo nel processo di cambiamento e rigenerazione dei luoghi fisici e delle relazioni immateriali, attraverso un processo di creazione e/o accrescimento dell' 'intelligenza urbana', intesa come chiarezza di visione, responsabilizzazione dei cittadini, partecipazione (Caragliu, Del Bo & Nijkamp, 2009; Cittalia-Fondazione Anci Ricerche, 2012b; Intelligent Community Forum, 2012, 2013; Barresi & Pultrone, 2013, Fistola, 2013).

Tuttavia, nelle prime esperienze pilota, la portata innovativa dell'approccio smart nel processo di ripensamento dei sistemi di organizzazione e gestione delle città e dei territori di frequente sembra relegata ad una sola o solamente ad alcuni degli ambiti di applicazione codificati a livello internazionale come *Building*, *Economy and People*, *Energy*, *Environment*, *Living*, *Government*, *Mobility and Transport*, nei quali le tecnologie per l'informazione e la comunicazione (ICTs), insieme a prototipi tecnologici e dispositivi interoperabili, costituiscono il principale elemento propulsore dello sforzo innovativo.

La tecnologia – spesso interpretata come elemento fondativo della *smart city* ed *asset* dal quale si sviluppano i progetti – deve essere però intesa soprattutto come fattore strumentale nel quale investire per valorizzare le risorse e sviluppare le competenze distintive sulle quali il territorio punta per competere a livello globale. Prima di essere un fascio di traiettorie tecnologiche, la *smart city*, infatti, cerca di dare risposte ai bisogni sociali emergenti su scala urbana e costituisce concreta manifestazione di una nuova generazione di politiche per l'innovazione che già investono i diversi livelli di governo del territorio; è una città che diviene più competitiva a livello globale se cultura, condivisione della conoscenza, capacità di apprendimento e innovazione avranno un ruolo strategico (Campbell, 2012; Osservatorio Nazionale Smart City, 2013; Agenda Digitale Italiana).

È quanto emerge anche dalle più recenti definizioni concettuali di *smart city*, intesa come 'proiezione astratta di comunità del futuro', perimetro concettuale e applicativo definito da un insieme di bisogni che trovano risposte in tecnologie, servizi e applicazioni riconducibili a domini diversi. Questi contribuiscono alla sua effettiva costruzione solo se integrati in una piattaforma che assicuri interoperabilità e coordinamento, e soprattutto la definizione di appropriati strumenti di governance, finanziamento e partecipazione essenziali alle realizzazione della sua visione politica e sociale, pianificata, organizzata e connessa alla capacità di

leggere le potenzialità dei territori da parte di un organo politico in grado di immaginare un orizzonte di medio-lungo periodo e con un approccio integrato che consenta di intervenire in un ampio ventaglio di ambiti. Inoltre, per essere realmente inclusiva, cosmopolita, fisicamente e digitalmente accessibile deve essere progettata in modo da agevolare la vita di categorie ampie di persone (stranieri, diversamente abili, visitatori, bambini, anziani,...) perché concepisce ambienti, servizi e prodotti fruibili agilmente da tutti i suoi abitanti e soprattutto cerca di evitare il rischio che essi, paradossalmente, possano diventare più 'stupidi' cedendo una parte della propria intelligenza a controlli e a sistemi di gestione esterni che se pure efficienti, da soli non sono sufficienti a garantire un miglioramento della qualità di vita (Mazzeo, 2013; Pultrone, 2013).

In questa prospettiva, le *smart cities* possono creare le condizioni di governo, infrastrutturali e tecnologiche per produrre innovazione sociale, ovvero risolvere problemi sociali contribuendo alla crescita economica e del capitale sociale, all'inclusione e alla qualità della vita attraverso l'ascolto e il coinvolgimento degli attori locali coinvolti, istituzioni, cittadini, imprese, associazioni (Toppeta, 2010; Correia & Wünstel, 2011; Harrison & Donnelly, 2011; Cittalia-Fondazione Anci Ricerche, 2012a; Cassa Depositi e Prestiti, 2013; Osservatorio Nazionale Smart Cities, 2013).

In definitiva, la *smart city* può migliorar la qualità della vita attraverso lo sviluppo economico sostenibile basato su innovazione, ricerca e tecnologia usate come strumento a servizio di nuove, crescenti, migliori aspettative sotto la regia dalla leadership locale all'interno di un processo più ampio di pianificazione integrata.

L'approccio *smart* non è però una novità assoluta degli ultimi anni. In uno studio di Cittalia-Fondazione Anci Ricerche, dal titolo *Il percorso verso la città intelligente* (2012), si osserva che l'iniziativa comunitaria *Urban* che a partire dagli anni Novanta finanziò in maniera consistente un processo analogo a quello considerato oggi di *smart city*, con eccellenti esempi concreti di buona integrazione tra pianificazione urbanistica, tecnologia, sostenibilità, ascolto delle persone. Nella stessa sede, si auspica una rilettura e utilizzo delle esperienze di allora nel nuovo percorso *smart* per imparare dalle buone pratiche e dagli errori commessi. Così come Harrison & Donnelly (2011) rilevano che il termine *smart* non è nuovo, traendo origine dal movimento della fine degli anni '90 *Smart Growth*, promotore di nuove politiche di pianificazione urbana e trasporti.

Nell'intenso dibattito alimentato da enti di ricerca, università, istituzioni, imprese e associazioni è stato posto l'accento su uno o più aspetti delle questioni relative agli ambiti di intervento e alla quantificazione del grado di smartness di una città. A questo proposito si richiama il *Report 2013* della Cassa Depositi e Prestiti in tema di *smart cities*, nel quale sono individuate tre differenti accezioni:

- la prima riguarda il numero di domini sociali e tecnologici coperti da iniziative promosse e coordinate da una città;
- la seconda attiene alla capacità di pianificazione e di visione della città necessaria per l'implementazione dei progetti (qualità delle scelte architetturale e di *governance*);
- la terza concerne il miglioramento della qualità della vita dei cittadini e, a tale proposito, il background socio-economico in cui vengono promosse le iniziative costituisce un fattore decisivo per l'accettazione e l'uso delle stesse.

Una delle questioni nodali riguarda poi il passaggio dalla dimensione concettuale alla sua traduzione operativa in termini di costruzione di una *vision* condivisa, di opportuni strumenti di *governance* e strumenti di finanziamento in considerazione della difficile congiuntura economica e finanziare con la quale tutti i Paesi devono fare i conti. E, rispetto a tutte le migliori intenzioni, è pure da considerare il fatto che la complessità degli interventi, la numerosità degli attori coinvolti e la difficoltà di misurarne i ritorni economici rischiano di comprometterne l'effettiva realizzazione.

A tale proposito, lo *Smart City Index* di Between (2013) costituisce il primo tentativo, patrocinato dall'Agenzia per l'Italia Digitale e dall'Associazione Nazionale Direttori Generali degli Enti Locali, per andare in

questa direzione. Se ogni città è differente dall'altra in termini geografici, demografici, economici, culturali, politici, sociali, è infatti possibile rintracciare una serie di caratteristiche comuni ed elementi ricorrenti nelle buone pratiche da diffondere e calibrare in base alle specificità e complessità dei singoli contesti, fermo restando il concetto che una *smart city* deve essere caratterizzato da una visione organica e lungimirante, come risulta dalle migliori esperienze in atto a livello nazionale e internazionale.

2 COSTRUZIONE DI UNA VISION CONDIVISA E POSSIBILI DIMENSIONI OPERATIVE PER UN NUOVO UMANESIMO URBANO

Con riferimento ai possibili approcci con i quali le città si occupano della dimensione applicativa in tema di *smart city*, nel "Vademecum per la città intelligente" (Osservatorio Nazionale Smart City, 2013) emergono due tipologie: quello verticale, più diffuso, che affronta uno o più specifici aspetti legati alla dimensione urbana come la mobilità, l'energia, i trasporti; e quello sistemico, che si riferisce alla città nel suo insieme, nelle sue diverse dimensioni, considerandola un unico sistema in grado di sostenere e abilitare l'innovazione. In particolare, la capacità di produrre innovazione, requisito centrale del mondo economico contemporaneo, si basa sulla pratica del pensiero critico e creativo, applicato ai processi della vita quotidiana attraverso l'ascolto, l'osservazione, il confronto interculturale, orientandolo verso l'*empowerment* (inteso come sviluppo delle capacità) di persone, cittadini, imprese e pubblica amministrazione.

A tale riguardo è fondamentale il ruolo delle amministrazioni locali che hanno l'opportunità di ridefinire il proprio modello di sviluppo e di valorizzazione delle ricchezze del territorio. Attraverso l'attivazione di una politica di condivisione delle responsabilità con il mondo economico e civile esse possono compiere quel salto di qualità nello sviluppo di modelli di *governance* efficaci nel conseguire obiettivi di benessere equo e sostenibile, che non possono essere importati ma devono scaturire dalle risorse endogene del sistema.

Le città, tuttavia, indipendentemente dalla loro dimensione, non sono necessariamente in grado di attivare meccanismi di *governance* in mancanza di alcuni prerequisiti che la trasformano in 'attore collettivo': un sistema di decisione collettiva; interessi comuni e percepiti come tali; meccanismi di integrazione; una rappresentazione interna ed esterna dell'attore collettivo; una capacità di innovazione (Pichierri, 2005; Le Galès, 2006). Con particolare riferimento alla *governance* urbana, sono individuabili due differenti dimensioni di integrazione, una interna e l'altra esterna (Tocci).

Nel primo caso, riguarda la capacità di una città di integrare i gruppi di attori, le organizzazioni e i diversi interessi che in essa interagiscono, al fine di elaborare politiche e strategie comuni, a differenza di altre città caratterizzate da conflitti strutturali, politici e sociali che impediscono, pertanto, qualsiasi forma di azione collettiva.

La dimensione esterna della *governance* è riferibile, invece, alla capacità di una città di rappresentarsi al di fuori del proprio ambito, di difendere una strategia, progetti collettivi unificati nei confronti di altre collettività locali e di altre città. Ne scaturisce, pertanto, il ruolo fondamentale della pratica della concertazione come nuovo modello di governo caratterizzato da un minore controllo gerarchico e da un maggior grado di cooperazione tra gli attori, secondo un processo di *governance* che si afferma in una logica di tendenziale accrescimento del capitale sociale fatto di sinergie e di fiducia reciproca che prende corpo nelle aree in cui convivono obiettivi di interesse pubblico (miglioramento delle condizioni di vita dei cittadini, maggiore occupazione) e vantaggi privati (maggiori utili economici, potenziamento del patrimonio delle imprese).

Il ruolo degli attori pubblici dovrebbe, pertanto, mirare alla creazione di modelli di *governance* che diano alla città uno status di attore consentendo di agire su più livelli fra loro connessi: attuare strategie di posizionamento sulla scena internazionale al fine di attirare investimenti, capitale, risorse umane qualificate; promuovere alleanze e forme di cooperazione con altre città o regioni; mantenere o rinsaldare il capitale sociale territoriale e la qualità urbana.

A livello internazionale, fra le iniziative orientate verso obiettivi di *smartness* urbana, il *City Protocol* (http://www.cityprotocol.org/) si propone come *framework in progress* di riferimento per le città di tutto il mondo, utile a valutare e migliorare le prestazioni nel campo della sostenibilità ambientale, della competitività economica, della qualità della vita e dei servizi della città, innovando e ricercando nuovi modi di coinvolgimento della società, indicatori di sviluppo concreti e universali, che utilizzino le potenzialità delle tecnologie ICTs.

Il requisito chiave per favorire l'innovazione e la competitività in una logica di sviluppo sostenibile è comunque dato dall'integrazione intelligente su scala urbana di tutta una serie di tecnologie – in gran parte già esistenti ma da sole non è sufficienti a costruire una *smart city* – che conferisce centralità alla dimensione umana, ipotizzando il ruolo attivo di reti di *leadership* (comprendenti le reti civiche e i gruppi della società civile) come capitale sociale in grado di selezionare e guidare l'*hardware* tecnologico, di strutturare e interpretare l'apprendimento, favorendo processi di innovazione realmente efficaci perché *citizen-driven*, oltre che *human-centered* (Campbell, 2012; Marsh, 2013).

In uno studio finanziato dalla provincia canadese dell'Ontario (Intelligent Community Forum, 2013) sono definiti cinque fattori critici per la creazione di Comunità Intelligenti, un elenco di indicatori che forniscono la cornice di riferimento per comprendere, valutare, pianificare e sviluppare i fattori che determinano la competitività di una comunità della broadband economy e la cui interrelazione può creare circoli virtuosi di cambiamenti positivi: connettività alla banda larga; forza-lavoro nel settore della conoscenza; inclusione digitale; innovazione; marketing e attività di supporto. Comunità che, al di là dei flussi globali nell'economia della banda larga, hanno ovunque lo stesso obiettivo di vivere in un luogo nel quale allevare con serenità i propri figli, offrire loro adeguate opportunità economiche e consentire le stesse opportunità ai propri discendenti.

Attraverso le nuove tecnologie si hanno a disposizione nuovi strumenti per costruire economie competitive ed inclusive anche da parte di comunità insediate in luoghi periferici, per abilitare anche le piccole imprese ad essere esportatori globali di competenze e conoscenze, prima non così facilmente trasferibili, ma anche per usufruire di servizi legati all'istruzione e alla salute. Assicurando un maggior benessere economico e sociale delle comunità, le ICTs possono ridurre gli stimoli delle generazioni più giovani a trasferirsi altrove in cerca di migliori opportunità e, paradossalmente, giocare un ruolo chiave nel promuovere un futuro sostenibile in un mondo interconnesso.

L'innovazione nelle comunità intelligenti porta assieme affari, governo e istituzioni in forme di partenariato in grado di produrre risultati che vanno da servizi ai cittadini migliori e a costi più bassi, alla nascita di imprese e a nuove istituzioni più vitali. Soprattutto è fondamentale costruire una cultura innovativa che attragga talenti, investimenti, riconoscimento globale e contribuisca attivamente a migliorare la qualità della vita di tutti i cittadini delle presenti e future generazioni. Tenendo conto di questi criteri e valutazioni, l'*Intelligent Community Forum* procede annualmente alla Selezione delle *Smart21*, *Top Seven* e *Intelligent Community of the Year*.

A livello europeo, una particolare attenzione al miglioramento della qualità della vita è rivolta dai progetti che contemplano un approccio alla *smart city* che privilegia il fattore umano, come nel progetto *Periphèria* – condotto sotto ICT Policy Support Programme e co-finanziato dalla Commissione Europea (Marsh, 2013) – laddove una *Human Smart City* è una città che apprende come organizzare la propria intelligenza, consapevole del suo ricco capitale umano in grado di spostare le proprie risorse avanti e indietro dal cyber-spazio allo spazio urbano. È consapevole che i cittadini non sono solo intelligenti ma anche in grado di rendere la propria città un luogo di innovazione sociale con un'infinita varietà di scelte.

La condivisione delle esperienze e la co-progettazione degli spazi urbani e dei servizi caratterizza i progetti pilota condotti nella città europee partecipanti (Malmö, Brema, Atene, Genova, Milano, la Contea di Palmela),

per ciascuno dei quali, partendo dal concetto di *people in places* e dai luoghi urbani, aventi ruoli e significati specifici, viene individuata una tipologia di ambiente urbano di intervento (*Smart Neighbourhood* per Malmö, *Smart Square* per Atene, *Smart Street* per Brema, *Smart Museum & Park* per Genova, *Smart Campus* per Milano e *Smart City Hall* per Palmela) e i fattori comuni di impostazione metodologica: l'idea modello del luogo, lo scenario pilota, i consigli di attivazione riguardanti il tipo di persone da coinvolgere, i luoghi da prendere in considerazione e i desideri da catturare.

È così possibile avviare un percorso virtuoso che conduce dall'individuazione delle sfide, alla costruzione di una visione condivisa, alla realizzazione di servizi *taylor-made* per le esigenze di cittadini, così come illustrato da Jesse Marsh nel suo intervento al Convegno "Human Smart Cities: come realizzarle", in occasione del Forum PA 2013 (http://iniziative.forum pa.it/expo13/convegni/human-smart-cities-come-realizzarle).

MyNeighbourhood costituisce un'altra iniziativa co-finanziata dall'UE (http://my-neighbourhood.eu/concept/) con l'obiettivo di affrontare le sfide della vita urbana ricorrendo alla più grande risorsa innovativa potenziale delle città, le sue persone, quindi con un approccio *human-centred*, consapevole del fatto che le complesse sfide urbane non possono essere risolte solamente dalle tecnologie innovative, ma che è piuttosto necessario un cambiamento del comportamento di massa, raggiungibile attraverso il coinvolgimento, le idee e la passione della gente.

È necessario pertanto ricreare i meccanismi i sociali che appartengono alla tradizione urbana, con comunità urbane fiduciose, alta qualità della vita, senso di sicurezza e di appartenenza. Metodologie e strumenti come *Urban Living Lab*, *Design Thinking* e *Social Gaming* supportati da piattaforme online favoriscono le relazioni fra i residenti, spingendoli a lavorare in partenariato per creare, innovare e implementare servizi locali basati sui bisogni reali.

I progetti pilota sono avviati nei quartieri di quattro città europee e finalizzati a dare risposte a specifici problemi:

- nel caso di Nørresundby, ad Aalborg (Danimarca), si prevede la rivitalizzazione di un quartiere vicino al centro storico per incoraggiare i residenti a trascorrere più tempo nell'area locale, a co-progettare il proprio quartiere e ad investire su di esso;
- a Ladywood, a Birmingham (Regno Unito), si punta a migliorare il trasporto pubblico, la qualità dell'aria e a spingere i cittadini a scegliere soluzioni di trasporto responsabili;
- a Mouraria, a Lisbona (Portogallo), si intende generare un senso di mutuo supporto all'interno di una comunità caratterizzata da flussi migratori, alta percentuale di anziani e giovani disoccupati, connettendo i residenti con la ricchezza della conoscenza e delle esperienze locali e puntando al miglioramento degli spazi pubblici;
- infine, a Quarto Oggiaro, a Milano (Italia), si mira al coinvolgimento dei cittadini nel migliorare la vita quotidiana di portatori di disabilità, considerati bisognosi di cure, esplorando modalità per farli contribuire a risolvere le sfide di quartiere, accrescendo l'autostima e la soddisfazione per tutti i cittadini, introducendo la piattaforma nella vita quotidiana.

Nell'approccio *human-centred*, i cittadini non hanno l'obbligo di adottare tecnologie che sono state selezionate e acquistate dalle amministrazioni locali, ma vengono incoraggiati a comporre, creare e co-progettare i propri servizi utilizzando le tecnologie disponibili in soluzioni semplici e a creare nuove forme di partenariato PPP (pubblico-privato-persone) sotto forma di alleanze aperte.

In un'epoca di crisi politica, finanziaria e sociale la disponibilità delle persone a collaborare alla costruzione del futuro urbano è una risorsa di enorme valore della quale le amministrazioni locali devono far tesoro.

È quanto prospettato nel FORUMA PA 2013 di Roma da Jean Barroca, membro della giunta del Comune di Fundao (in Portogallo) e ricercatore presso Alfamicro (http://smartinnovation.forumpa.it /story/73501/fundao-una-piccola-human-smart-city-intervista-jean-barroca-alfamicro).

Fig. 1 Fundao, in Portogallo, punta a divenire *human smart city* attraverso progetti di rigenerazione urbana *community based*

Nella piccola città ubicata nel centro del Portogallo, con il problema di attrarre investimenti e talenti per far fronte alla disoccupazione e per avviare un nuovo processo di sviluppo economico e sociale, si è deciso, infatti, di puntare sugli spazi e le strutture a disposizione e di mettere in piedi progetti di rigenerazione urbana fortemente *community based*. In particolare, il progetto *Cova da Beira Living Lab* consiste nella messa a rete di spazi della città che offrono alla cittadinanza nuovi servizi e opportunità ed realizzato attraverso *Cova da Beira*, un Consorzio patrocinato dall'amministrazione comunale in collaborazione con le imprese, le università, le banche e le istituzioni pubbliche e private. L'obiettivo è la creazione di un ecosistema aperto, comprendente: la fornitura di aree e spazi per l'incubazione di imprese e per progetti imprenditoriali, la creazione di laboratori per la prototipazione e di centri di ricerca e sviluppo dei prodotti della salute, la predisposizione di servizi che favoriscano l'internazionalizzazione dei prodotti e dell'imprenditoria locale. Per la sua realizzazione, la città ha negoziato con la banca per creare una linea di capitale di avviamento per un importo di 500.000 euro all'anno per sostenere le iniziative locali con micro imprenditorialità.

In tutti i casi fin qui illustrati, è riscontrabile l'importanza della creazione del senso di comunità per rendere efficace la concretizzazione dei obiettivi che scaturiscono da una approfondita analisi dei fattori di criticità e delle potenzialità dei differenti contesti. È poi essenziale lo scambio e la condivisione delle esperienze fra le città appartenenti al partenariato di progetto e la loro diffusione attraverso piattaforme dedicate, in modo da fornire linee guida e utili indicazioni metodologiche per altre città e territori UE interessati da analoghe problematiche e desiderosi di intraprendere un percorso verso una *human smart city*.

Un ultimo aspetto, ma non per questo meno importante, che si intende considerare è quello relativo agli strumenti, in ambito urbano e non, di diversa natura ai quali è possibile ricorrere per finanziare la *smart city*. Fra questi quelli provenienti dalla nuova programmazione UE 2014-2020 (programmi a gestione diretta come Horizon 2020. COSME, LIFE+, Fondi Strutturali; strumenti BEI). L'utilizzo dei vari modelli e procedure di partenariati pubblico-privato può favorire l'ingaggio di finanza privata; accanto a questi altri strumenti innovativi di finanza privata per interventi più focalizzati o di nicchia quali i *MiniBond*, la *Venture Philantropy* e il *Crowdfunding*. È comunque opportuno che la PA crei le condizioni per un ambiente il più possibile *business-friendly* che stimoli l'iniziativa privata, con risvolti economici, sociali e ambientali positivi per l'intero tessuto urbano. A tale proposito, si ritiene particolarmente la matrice strumenti/ambiti, illustrata in un report

della Cassa Depositi e Prestiti (2013), che organizza i diversi dati raccolti allo scopo di aiutare i principali stakeholder nel perseguire il percorso di innovazione e nella quale il grado di adattabilità dello strumento nell'ambito è definito sulla base delle considerazioni su tecnologia, contesto di riferimento e modelli di business.

3 CONCLUSIONI

La città non è solo il luogo dei grandi problemi della contemporaneità legati al rapido e intenso processo di urbanizzazione in atto, ma anche e soprattutto il luogo privilegiato delle grandi opportunità di sviluppo economico, culturale e sociale, dove già viene prodotto più del 50% del PIL mondiale. Le grandi aree di innovazione – legati alle ICT, all'energia, alla mobilità, tecnologie digitali, design dei servizi, biotecnologie – vedono proprio nella città il luogo di sperimentazione e applicazione prioritaria di soluzioni e straordinarie opportunità abilitate dalle nuove tecnologie, ambiente propizio per la partecipazione dei cittadini e per modelli di sviluppo di sostenibile. Come sostiene Claudio Forghieri in una recente pubblicazione di CITTALIA-Fondazione Anci-Ricerche (2012), la sfida maggiore è quella integrare in modo efficace il nuovo spazio digitale della città con strumenti e soluzioni in grado di abilitare fattivamente quel *civic empowerment* che è la reale scommessa della città intelligente, dove la misura della *smartness* è data da una diversa percezione della qualità della vita, a cui gli stessi abitanti hanno contribuito attivamente.

Smart city non come prodotto, dunque, ma come percorso-processo continuo, nel quale la ricerca delle soluzioni ai diversi problemi sia l'esito di una governance inclusiva, di collaborazione con le imprese, di azioni di co-progettazione con gli utenti che, fra l'altro, ne decreteranno o meno il successo.

Se l'intersezione delle due dimensioni della sensibilità di una smart city, quella tecnologica e quella sociale, genera i 'sensori antropici' rappresentati dai cittadini che, attraverso tecnologie personalmente gestite possono monitorare, riprendere e memorizzare le caratteristiche di un fenomeno urbano, per il suo funzionamento è fondamentale che i dati raccolti siano elaborati per i successivi opportuni interventi e resi disponibili alla collettività la quale può, di conseguenza, fare delle scelte consapevoli e definire il proprio comportamento nello spazio urbano (Fistola, 2013).

Soprattutto la *smart city* deve essere intesa come spazio concettuale e concreto favorevole all'elaborazione delle nuove politiche pubbliche per le città – con obiettivi finalizzati al perseguimento di una migliore qualità della vita – caratterizzate da un forte contenuto tecnologico e dall'utilizzo su larga scala dell'ingegneria finanziaria, ma soprattutto da una visione strategica di ampio respiro e medio-lungo periodo, da modelli innovativi di *governance* in cui cooperazione e competizione possano coesistere nella sfida di creare beni pubblici competitivi (Pichierri, 2005).

Di particolare efficacia la 'metafora dei binari' come azione-guida per le amministrazioni comunali che Gloria Piaggio (Direttore Progetti Europei del Comune di Genova e Segretario Generale dell'Associazione Genova SmartCity) ha ripreso più volte in occasione della sua partecipazione a iniziative di diverso genere in tema di smart city nell'ultimo triennio: i binari indicano la direzione (la *vision* che deve essere costruita in forma partecipata con il coinvolgimento degli stakeholder territoriali), le traversine che indicano le 'cose da fare', le azioni, i progetti, le iniziative necessarie alla sua attuazione con effetti in termini di concreto miglioramento della qualità della vita, in un'ottica di pianificazione integrata e superando la logica di interventi spot progettati in maniera diffusa e scoordinata senza una cornice di riferimento strategica.

In definitiva, avviare un percorso di *smart city* presuppone la definizione di un processo di pianificazione di medio-lungo periodo da parte delle pubbliche amministrazioni. Partendo dalla definizione di una *vision* condivisa tra i vari *stakeholders*, attraverso l'analisi della situazione urbana, la definizione delle aree su cui è necessario intervenire e soprattutto l'individuazione dei punti di forza della città. La visione strategica deve essere declinata in una serie di obiettivi ambiziosi ma realistici da monitorare in modo costante attraverso

indicatori di performance al fine di valutare i progressi e attuare eventuali azioni correttive in itinere. Nella successiva identificazione delle aree prioritarie di intervento è poi importante distinguere i progetti abilitanti alla *smart city* nel suo complesso e quelli specifici di un singolo ambito applicativo, da abbinato allo/agli strumenti di finanziamento più idoneo/i come suggerito dalla matrice, cercando di non incidere eccessivamente sul bilancio pubblico, e considerando che spesso è preferibile far riscorso ad un mix di finanziamenti; una volta avviate le iniziative è necessario il monitoraggio costante in modo da valutarne tempi, costi e qualità. In questo articolato percorso è dunque centrale il processo di pianificazione, la cui carenza renderebbe insufficiente l'impatto dei soli, pur consistenti, fondi UE (Cassa Depositi e Prestiti, 2013).
Più in generale, una città è davvero *smart* se sa come valorizzare il proprio capitale umano e sociale al fine di creare un contesto creativo e qualificato per lo sviluppo economico, dando il giusto peso a fattori che non siano solo ed esclusivamente legati alla crescita economica (Bencardino & Greco, 2014). Si ritiene, in sostanza, che al centro della smart city ci siano gli essere umani, che la direzione giusta sia quella di lavorare sulle comunità urbane, sui quartieri, sulle reti di città, affinché le ICTs abbiano il significato di strumento di ausilio nella co-progettazione e co-erogazione di servizi. In tal modo si favorirebbe un percorso continuo di innovazione che non può prescindere dal coinvolgimento dei cittadini e delle imprese, principali protagonisti dell'intelligenza urbana: nel primo caso vanno alimentati fenomeni di co-creation attraverso Living Lab o iniziative web, nel secondo caso si può sfruttare la domanda pubblica di beni e servizi in modo intelligente attraverso opportuni strumenti finanziari quali il *Public Procurement of Innovation* (PPI) e il *Pre Commercial Procurement* (PCP) (Cassa Depositi e Prestiti, 2013).
Come viene sottolineato anche nell'Agenda Digitale Italiana, senza partecipazione dei cittadini non esiste *smart city*, anche perché i suoi servizi vivono grazie ai contributi e all'interazione costante con i cittadini. Il coinvolgimento (*engagement*) è altresì fondamentale perché smart city e comunità intelligenti si costruiscono nel territorio, dove i problemi e le esigenze specifiche devono trovare risposte flessibili e dinamiche, con la consapevolezza che l'unica via per mantenere nel tempo un'elevata qualità della vita è quella di procedere su una programmazione che coniughi progettazione e monitoraggio dal basso con infrastrutture e strategie di sistema.

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IMAGE SOURCES

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Fig. 1: http://www.smartcityexhibition.it/it/news/fundao-una-piccola-human-smart-city-intervista-jean-barroca-alfamicro

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SOCIAL MOBILE MARKETING

EVOLUTION OF COMMUNICATION STRATEGIES IN THE WEB 2.0 ERA

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ABSTRACT

Increasingly faster communicational streams - that ease interactions and allow agents to considerably enhance their own informational assets - characterize the era in which we live. The research about new media, mobile and social technologies is the driver of this changes that implements a revolution of the content management, of the information accessibility and of the relationships interactivity. These characteristics don't leave the agents unresponsive and it is interesting and fitting to understand the tools available to firms and institutions and the communicational and marketing policies that organizations put to use to achieve their goals. In this context we want to find strategic and operational models to support organizations decisions about markets and territories. The purpose of this article is to understand how small organizations can utilize networks that characterize new trends in marketing. We conclude by providing some thoughts on the future evolution of the research in this field also with reference to the smart city that can exploit social mobile marketing for promotion of the territory and social participation.

KEYWORDS:
Mobile Marketing; Social Marketing; New Media; Web 2.0; Smart City

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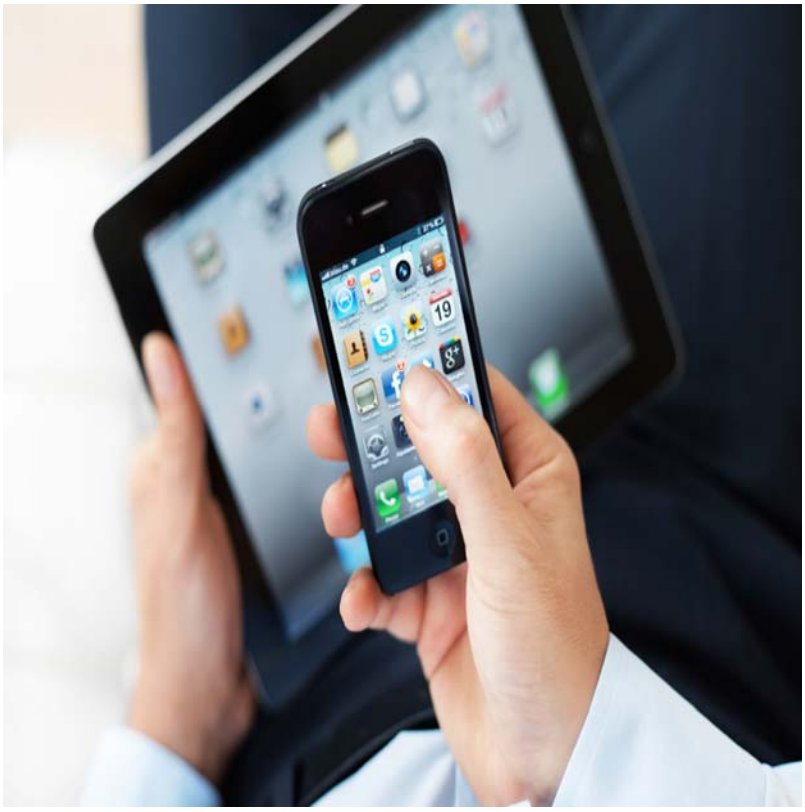

社会移动营销——Web 2.0时代沟通战略的演变

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摘要

越来越快的沟通渠道——方便了互动并大大提高代理商对自身信息资产的管理——这是我们生活时代的特征。对于新媒体、移动和社会技术的研究推动这种变化，从而带来了内容管理、信息可达性和人际关系互动性方面的革命。代理商们并没有忽视这些特征，因而有必要适时地研究企业和机构可用的各种工具以及组织能够用以实现目标的沟通和营销策略。在这一背景下，我们希望找到可以支持组织的市场和区域抉择的战略性及操作性模型。本文旨在研究小型机构如何在营销中利用各种代表新趋势的网络。通过进一步参考应用社会移动营销进行区域促销和社会参与的智能城市，我们对该领域未来研究的发展进行了若干思考。

关键词
移动营销、社会营销、新媒体、沟通战略、Web 2.0

1 INTRODUCTION

The technological progress and the birth of new social paradigms are shifting the marketer focus towards a new way of doing business (Gronroos, 1994) and in particular enhance day by day the strategic and operational processes of marketing and communication.

Marketing communication refers to the set of organizations activities that create and maintain the demand and a solid internal culture.

Different types of communication exist:

- institutional;
- external;
- internal.

Institutional communication refers to the influence on the attitude of the target by the organization. It creates a corporate image and adequately positions itself in the actors perceptions. With external communication an organization wants to influence actors behaviors. Internal communication let organizations motivate staff and give operational guidelines. Integration starts from the union of these three aspects that have to be managed in a unique way to build a multiplier effect.

Markets fragmentation and development of new media represent changing factors that characterize the current era and present operators with new communicative possibilities: moving from broadcasting to a communication increasingly more focused on the single user (Hirst et al, 2014).

In this situation it is difficult to manage relationships and integrate different channels: the risk is to generate confusion and disorder that reflects on citizens or consumers. For years administrations have entrusted different divisions with the task of communicating and creating different messages for different media or products.

Nowadays markets and relationships are conversations (Cluetrain Manifesto, 2009) and it is not possible to communicate in a coherent way without unifying messages bidirectionally. The problem is that users who unify all sources in a single message do not perceive the difference made by organizations between new and old channels in the same way. An organization that creates confusion may lose reliability wasting assets. From the territorial point of view, a city could jeopardize the relationship with its citizens.

In order to spread a well-defined image on a brand it is necessary to integrate the communication in a distinct function: integrated marketing communication (IMC). This approach represents the first step to create strong, lasting relationships between targets and organizations.

There is the need to manage relationships in the best possible way. This is crucial if we consider how new social technologies have changed the way of living and the speed with which information travels. In this context direct marketing and social media represent starting points to manage relations appropriately in an era characterized by mobile technologies. Through the analysis of these factors, this article explains what are the possibilities for organizations to take advantage of the social mobile marketing channel.

The first paragraph indicates an instrument that represents the starting point of the relationships interactivity between organization and target: direct marketing.

Then an important step is described in the technologies evolution: through the literature review, how context - in which agents work daily – changes is understood. The fourth paragraph exposes models to manage new dynamics and the way in which they define new strategies. In this way the article summarizes a strategy that allows organizations to reach prosperity in the medium to long term. Then we analyse a case study that puts into practice the elements discussed.

Finally we debate about the aspects examined trying to understand positive and negative aspects of the experience and if it is applicable in different contexts.

2 THE ORIGIN OF INTERACTIVITY AMONG AGENTS: DIRECT MARKETING

Direct marketing (DM) is a key instrument because it represents the first bidirectional approach between users and organizations. DM allows to interface directly with a single user: communicative approach goes from one-to-many to one-to-one (Peppers et al., 1999). *"Direct marketing consists in the direct contact with carefully selected single consumers in order to achieve an immediate and long term relationship."* P. Kotler (2006). The main instrument to manage customers is the marketing database. It uses the informational assets in order to establish a long term relationship with the target. It includes behavioral information of any single user and his contact history with the organization (De Luca, 2008). Also customer data management has a great importance for organizations (Verhoef et al., 2010). These definitions relate exclusively to the relationship between customer and firms. In a relation between institution and territory there are no great differences: cities, as firms, are performing systems. The task of the institutions is to create the best condition for citizens and companies to invest on the territory and to live it at its best, so it is very important to establish a direct and continuous relation.

Eventually it is possible to summarize the distinctive characteristics of the direct marketing:

- interactivity;
- selectivity of the message;
- capillarity of the action;
- measurability of the efficacy;
- multi-channel approach.

These attitudes have shifted the focus of organizations from the product to the users. Customer relationship management (CRM) is the user-centric approach that firms adopt to better manage relationships.

3 NEW MOBILE AND SOCIAL MEDIA

The opportunity to link CRM to the new social technologies that lead to a more collaborative approach born in a context characterized by the development of new social media (Trainor et al., 2014). In order to engage users in collaborative relationships and increase customer relationship it is necessary to combine CRM tools with new social media (Greenberg 2010). The greater the integration within organization, the greater the ability to manage relationships (Nevo & Wade, 2010). But what possibilities do new technologies give?

The arrival of new social media changed the communication flows. New and interactive digital contents can be modified and reproduced by everyone in every moment. The stream changes creating a bidirectional relationship in which people participate to the making of what they prefer. It goes from a *one-to-one* communication to a *many-to-many* communication. This approach is the main characteristic of Web 2.0 and leads to the emergence of a new figure: the *prosumer*[1] (Toffler, 1980).

Internet isn't a passive experience anymore. Web 2.0 brings two main benefits to its users:

- people can exploit rich services and create digital content;
- organizations can use new tools to research data and to achieve marketing goals.

Web 2.0 is also a low cost asset in comparison with traditional tools. Furthermore, events such as the Arab spring and the election of Barack Obama show the extent of the social media phenomenon. It is not a coincidence that the Internet is the only sector that records a positive variation in advertising investments between 2011 and 2012 (Censis, 2012). In this context organizations become network elements that can directly interact with users (Kietzmann et al., 2011). Integration – in addition to positively influence relationships – develops a strong internal cohesion that improves conditions in the organization.

[1] Producer + consumer

In 2012 Nielsen carried out a research[2] with a cluster analysis that gathered different kind of Internet users in five groups: *the dormants, the not involved, the pragmatics, the fanatics* and *the followers.* It is clear that organizations have to inspire the followers who represent the largest cluster (29% of the sample survey). Consequently it becomes essential to pinpoint influential users who could be strategic assets to trigger processes of word of mouth.

3.1 SOCIAL MOBILE MARKETING

The new mobility paradigm (Sheller & Urry, 2006) analyzes social behaviors in a non-static era, in which technology and economy converge (Mandelli & Accoto, 2011).

In this new mobile society, some characteristics emerge:

- wireless technology endorses people with a greater sense of autonomy;
- mobile communication gives the possibility to be always connected;
- everyone can manage his relationships on the Internet.

Mobile marketing is a multi-way communication of an offer between organizations and users made by a mobile medium, device or technology (Shankar & Balasubramanian, 2009). Kaplan (2011) defines mobile social media as a group of applications that allows the creation and exchange of user-generated content.

Objects such as mobile phone have now learned to understand the environment thanks to sensors and actuators; the spread of internet access on mobile devices creates new possibilities of interaction between individuals and organizations that can distribute their marketing messages for specific locations and time periods (Kaplan, 2011).

Furthermore marketing wants to make and keep promises that allow the stakeholders to have perception of achieving their goals. According to the *service dominant logic* (Vargo/Lusch, 2004) users search for goods and services that provide solutions to complex problems.

The value of goods and services is no more related exclusively to their material characteristics; the value born from perceptions of users related to what they think about the product, the buying and consumption processes: people buy meanings. There is no value if users don't perceive it.

The impact of the social mobile marketing tools allows people to be continuously connected with the community in a high-personalized communication (Kaplan, 2011).

People interpret what they are living by processing the outside input, received with devices that help them to contextualize the experiences. There is no value if no benefit is perceived, without co-creating and without telling stories (process of *storytelling)*: value is a process of *social sense making* (Mandelli, 2011). Organizations get excellent results from a correct process of storytelling. They succeed to manage reputational crisis that represent dangerous risks. Nevertheless social mobile media return to organizations some of the power that social media gave to users (Kaplan & Haenlein, 2010).

There are different companies that base their businesses on the storytelling. At a territorial level Foursquare, for example, is a service that allows its users to tag places and events in the city and to comment and share their experiences. In this way Foursquare works as an interactive guide of cities and territories. Moovit applies the same functions to the urban transports.

3.2 OPERATIONAL POSSIBILITIES

Mobile marketing allows retailers to instantly communicate with costumers who are next to their brick-and-mortar shops in order to induce an immediate action (Shankar et al., 2010). The online activities of the Internet users bring about a reduction of the information asymmetries and, consequently, to a loss of control of brands

[2] Digital Market Trends, 2012

by organizations. There are two general ideas about the control in these conditions: the first one suggests making plans and continuing to influence behaviors as it's always been done. The second one suggests to abandon the planning and to participate to the markets conversations in a process of continuous learning (Mandelli & Accoto, 2012). A correct strategy should probably find its balance in the middle, and organizations should base their choices on both ideas:

- understanding where and how to make plans;
- managing the uncertainty, addressing the unexpected and acting on communicative capabilities.

About the approach to the target, the classic segmentation seems to not be effective with Web 2.0. Mobile marketing needs a thorough comprehension of users and nodes to make a segmentation of networks that allows the development of an efficacious targeting strategy (Shankar et al, 2010). Market fragmentation leads to the definition of small groups of individuals called *tribes* (Maffessoli, 2002). The elements of the tribes focus their attention on a brand or a product using new active channels to communicate with each other. The role of marketing is to find the points on which the interest develops and, again, to understand who are the subjects who contribute to create the contents. The 40th thesis of the Cluetrain Manifesto (2009) says: "*Companies that do not belong to a community of discourse will die*". The change of an organization that communicates with web is the change of the approach to the target: organizations must be tribal, maintaining social relationships that bind the individuals around them. In this way it is possible to pursue the following objectives:

- product differentiation: social media marketing points out the meaning of the aggregation that a product represents beyond its material characteristics;
- customer loyalty: developing confidence based on the sense of belonging of the individuals to the brand;
- brand awareness reinforcement: creating meanings and values shared by consumers.

To understand how to exploit the opportunities arising from innovations is also necessary to list the difficulties that characterize new markets (Alpert, 2010):

- product standardization is increasing;
- innovation cycle of the product is faster;
- lifecycle of the product is shorter;
- the ability to communicate has increased for everyone;
- lack of time for users' decisions;
- competition is strongly increasing;
- reduction of information asymmetries;
- impossibility to hide: a bad experience will soon be told.

According to Hoffman and Novak (2011) strategies should be built on four guidelines summarized by the acronym LEAD (Listen, Experiment, Apply, Develop). LEAD emphasizes on the need of testing solutions starting from a process of mutual feedback. Mandelli and Accoto (2012) propose a model more based on relationships called KCRESE (Knowledge, Capabilities, Relations, Experiences, Storytelling, Evaluation). This model gives greater importance to the communication capabilities, to the understanding that relationships are based on processes of social sense making, to the knowledge that it is possible to control these activities.

The sustainable profitability stays at the center of the strategies. Social mobile marketing is an approach that allows firms to achieve a medium to long term profitability. Every customer contributes through his purchases, repeated over time, and through the positive influence on the behavior of other customers. He adds costs to the organization. These costs tend to decrease over time for loyal customers because of learning curves and scope economies that arise in the relationship. The ability of organizations to convert potential users, first in actual users, and then in loyal users is also of relevance for the efficiency of the operating costs.

It is possible to summarize the basic steps to follow a proper *social mobile* strategy that probably every organization has to follow to gain success in the medium to long term:

1 understand the mechanisms of *word of mouth*;

2 identify influencers and create a sincere and lasting relationship with them;

3 identify the networks through which to meet correctly with users;

4 establish processes of social sense making;

5 prepare emergency and crisis management plans (planning vs continuous learning).

The aspects analyzed, together with the numbers that characterize the market for mobile devices and services, does not leave marketing indifferent. Analyzing the estimated growth of investments in interactive marketing in the U.S. from 2011 to 2016 (data Forrester, 2011), we note that the average annual growth rates appear higher for expenditure for social media and mobile marketing (Figure 1).

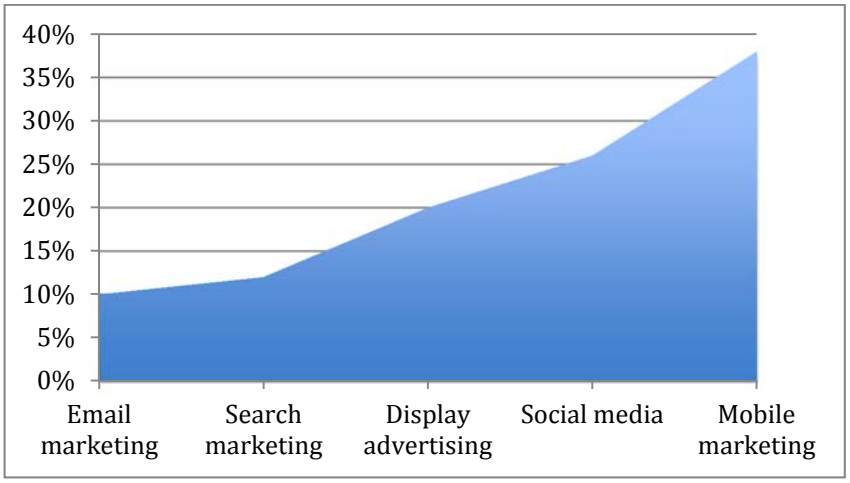

Fig. 1 US interactive marketing spend, CAGR 2011 to 2016; Forrester research (2011)

4 AN EMPIRICAL CASE: GLOCALIZME

About the need to find networks to relate with the target, the study attempts to address and understand the assets the retailers have to exploit the channels of the social mobile marketing. Often small businesses or brands don't have resources and skills required to initiate these processes.

Groupon is a typical example of how organizations feel the need to rely on intermediaries to improve awareness and store traffic (Shankar et al., 2010). We have chosen to describe the case of an intermediary that allows small firms in the territory of the city of Rome to utilize the possibilities offered by social mobile marketing. This analysis is made possible thanks to the availability of Glocalizme to access firm reports. The firm reports also contain the results of customer satisfaction interviews.

The Glocalizme business involves two different kinds of subjects, which can be targeted in two categories: *clients* and *users* (Tab. 1). The end users are the people that use the service with their mobile devices. The clients are organizations who use the service for advertising purposes.

Clients are not only shopkeepers. For example the 15% of them is composed by museums. For simplicity, the description will refer exclusively to retailers.

Clients	Users
198	746

Tab. 1 Glocalizme's customers

4.1 THE PRODUCT

Glocalizme interfaces with each of the two agents in different ways: the website allows the clients to upload promotions and manage their personal space on an application for mobile devices (*app*). The app, characterized by a high quotient of usability, is dedicated to users: thanks to location-based service, it localizes users indicating the retailers around them from the nearest to the farthest; users take advantage of the offer advertised on the app, by showing the screen of the device to retailers.

The check-in gives to users the possibility to indicate that the purchase has been made, and the promotion has been used. Then the possibility is given to users to share their own experiences on social networks; this aspect represents the greatest opportunity for clients that could improve their communication at low costs, communicating directly to the target.

Clients have the possibility to make their presence stronger on the territory. The gaming service completes the product: every user could win special offers - challenging friends or other users - if he ranks high in the rankings relating to the purchase of specific product category.

Recalling the five key points to make a good social mobile marketing strategy, it is clear that Glocalizme represents a network through which organizations can interact with users.

The start-up represent a way through which is possible to take advantage of new market trends. What is new is the possibility for small operators to implement and manage processes of understanding and administration of the behaviors in mobility and the related conversations.

4.2 POSITIVE ASPECTS

Glocalizme is an instrument of direct marketing thanks to the interactive feature, to the selectivity of the message, to the capillarity of the action and to the measurability of the efficacy.

Referring to the characteristics of social mobile marketing, Glocalizme gives the clients the possibility to meet users thanks to social networks, to the location and to the game services that represent the main instruments to create a long term relationship if they are used to understand the word of mouth that naturally takes place thanks to the viral communication engendered by users.

Thanks to the *gamification*, it is possible to identify the influencer without an expensive effort; the influencers should be adequately rewarded since they will become loyal customer and, moreover, they represent the main promotional channels that could enhance incomes of businesses.

Furthermore the shopkeepers will have an effective virtual showcase because of the possibility to have visibility even at a considerable distance.

Coming back to the five steps that outline strategies, we can see that Glocalizme offers the possibility to control the word of mouth, identify influencers thanks to the gaming services, reach the target thanks to a tool of extremely wide diffusion, and establish a permanent contact with users.

The positive elements resulting by the analysis are mainly referred to three aspects: the approach to the target, the capillarity of the action, the ability to identify influencers:

- the service addresses a wide number of clients. The choice is to serve all those organizations that fail to take advantage of social mobile marketing, especially those who want to embrace progress. These clients have seen an increment of their own communication skills adopting a channel, that of mobile devices, which is composed by about 11 million of units in Italy (Audiweb, 2011);
- the action is capillary because the messages go directly on the device screen of the single user who chooses the best offer;
- identifying influencers is quite simple thanks to the gaming services.

4.3 NEGATIVE ASPECTS

Considering the models of LEAD and KCRESE we can see that the logic of Glocalizme better answers to the first one. The limits of the start-up in fact emerge in the impossibility of telling stories, for both users and clients; they could only share experiences without being able to comment, and it's difficult to maintain long term relationships. Some problems have also emerged related to the fact that once first contact is established between client and end user these generally could find convenience in the exclusion of the intermediary from further interactions.

Another problem that has emerged is the control of the check-in process, in fact because the volume of tracked transactions on the servers was lower than the number of transactions recorded by retailers, it's clear that the procedure wasn't always completed correctly; therefore the system couldn't give an effective perception of the volume of transactions that took place, and guarantee reliability of the measurability of the results.

These things have led, after a first step of enthusiasm, to the failure of the start-up. In addition the lack of storytelling has not permitted the creation of a strong relation with the target. Clients have positively accepted the product and understood its potential, but the limited involvement of users has prevented the possibility to overcome the initial phase of the life cycle. The low measurability of the results led, time after time, to the loss of control. The risk was to find many consumers for the retail outlets without being able to maintain a role within the relationship.

5 LIMITATIONS AND FURTHER RESEARCHES

This analysis confirms the importance that some characteristics of social mobile marketing - examined in the previous paragraphs – have to building a successful strategy.

In particular we have observed how the storytelling and the possibilities of beginning a long term relationship are very important tools for social mobile marketing. The experience has also suggested in which way it is possible to widen, even for small firms, the possibilities of using these characteristics. For this reason small organizations need a broker who acts as a social network and allows agents to talk to each other, creating shared meanings and values.

The study presents some limitations. Further analyses are needed to better understand what are the results reported by organizations in terms of effectiveness of investments and customer satisfaction. It would also be desirable to increase the study sample. For these reasons there is still a limited understanding of the best mobile practices for organizations. Furthermore, the experience of Glocalizme suggests some aspects not exclusively related to retailers. The presence of museums as Glocalizme's clients suggests that further studies could focus on public facilities in Smart Cities. The latter consideration lets us imagine future urban settings where social mobile technologies allow interactions between people and organizations (Fistola, 2013). ICT solutions are the most important key of development for cities and allow them to gain competitiveness (Delponte, 2012); the increasing use of ICTs in everyday life has resulted in the need to permanently consider the development of new technologies in urban policies. ICTs should be considered in every institution strategic plan also for the social benefits they guarantee. Peer-to-peer interaction is a phenomenon of sociological and technological interest that allows citizen-generated information affecting work practices in organizations (Palen & Liu, 2007), and in this context social mobile media could represent a strong instrument of social participation to initiate and implement processes of smart governance.

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L'ACCESSIBILITÀ NELLE SMART CITIES

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ABSTRACT

FIABA is a cultural route for all, its aim is to promote a Global Accessibility and a Universal Usability through the removal of architectural, cultural, psychological and sensory barriers. FIABA is carrying out a real change and a cultural renewal in the name of equal opportunities. Respect for the environment in which we live is also a duty towards the younger generations to whom we must deliver a world in which free movement and the normal use of spaces are goals already achieved. There are millions of citizens who, because of their physical conditions are prisoners in their homes because there isn't any elevator or any elevator maintenance. FIABA project aims at implementing "a Space for all" or "a landscape for all" following the path of the ONU Convention on the Rights of People with disabilities with an emphasis on architectural, cultural, and psychological barriers, the last ones in particular, create barriers to equal opportunities and they are often carriers of discrimination. The principle of accessibility is invoked in Article 9 of the Convention which confirms the principle that people have a right to live independently and participate fully in all spheres of life and thus States are required to take all necessary measures to ensure accessibility to physical environment, transport, information and communications, including systems and technologies of information and communication and other facilities and services open to the public, both in urban and rural areas.

KEYWORDS:
Accessibility; Design for All; Total Quality

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智能城市的可及性措施

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摘要

FIABA是面向所有人的文化之路，旨在通过移除建筑、文化、心理和感官障碍，促进全球可及性（GlobalAccessibility）和普遍使用性（Universal Usability。FIABA以平等机会之名义，推进实际变化和文化更新。尊重我们所生活的环境也是我们对于年轻人应尽的义务。我们必须为他们创造一个自由移动和正常使用空间，这已不再是梦想的世界。数以百万计的公民因为身体障碍只能被囚禁于家中，因为没有电梯或任何电梯维修供他们使用。FIABA旨在遵循联合国《残疾人权利公约》，实现“所有人的共有空间”或“共同风景”。其关注重点在于，建筑、文化和心理障碍（尤其是心理障碍）阻碍了平等机会的实现，并常常带有歧视意味。《公约》第9条援引可及性的原则，即人们享有独立生活以及充分参与生活各方各面的权利，因此，国家应采取所有必要措施，确保人们普遍享有获取物理环境、交通、信息和通信的权利，包括获取面向城市和农村地区公众开放的信息通信系统和技术以及其他设施和服务的权利。

关键词
管理，人性化智能城市，创新，参与，生活质量

1 UNA CITTÀ INTELLIGENTE È UNA CITTÀ INCLUSIVA?

La Smart City, nuova frontiera nell'interpretazione degli agglomerati urbani, sembra essere l'orizzonte giusto a cui tendere per rendere più efficiente l'organizzazione delle nostre città. Questa rivoluzione delle strategie di pianificazione delle istituzioni locali si ripromette di utilizzare il capitale umano, sociale e intellettuale, ovvero i cittadini, per migliorare i servizi della città attraverso una migliore comunicazione tra comunità e istituzioni. Il tutto naturalmente accompagnato da un utilizzo diffuso delle nuove tecnologie della comunicazione e dell'informazione (ICT), della mobilità, dell'ambiente e dell'efficienza energetica.

Le Smart City, per coloro che come FIABA si occupano di accessibilità e di abbattimento delle barriere architettoniche, sensoriali e culturali, rappresentano un'ottima occasione, che però rischia di essere sprecata. L'utilizzo di tecnologie per la comunicazione permette ad un qualsiasi cittadino di partecipare ed interagire nella pianificazione delle strategie della città, sia in forma più diretta attraverso una co-progettazione dei servizi, oppure indirettamente con strumenti di valutazione e consultazione on-line da parte dei cittadini. Questo può tradursi nella possibilità che coloro che presentano esigenze particolari o competenze specifiche in tema di accessibilità, abbiano il diritto e dovere di partecipare attivamente ai processi decisionali del governo locale. L'intervento e cooperazione di soggetti diversi (associazioni, progettisti, singoli individui) impegnati attivamente per l'accessibilità globale potrebbero in questo modo influenzare le decisioni governative per la realizzazione di un più alto e diffuso livello di fruibilità degli spazi. Affinché questo sistema funzioni è imprescindibile la predisposizione delle istituzioni locali a lasciarsi influenzare da quanto emerso dai giudizi dei cittadine o dalla mole di risorse informative emerse dal crowdsourcing, considerandole la base per la programmazione degli interventi futuri.

A causa dell'enorme diffusione di smartphone e simili, molto spesso ci si dimentica che gli strumenti necessari per l'accesso ai servizi legati alle ICT non sono disponibili a tutti. Il loro costo elevato e anche il loro non facile utilizzo rischiano di aggravare l'emarginazioni di alcune categorie di persone, consolidando una realtà già evidente nella nostra società. Basta pensare agli anziani, completamente sprovvisti di manualità e dimestichezza nell'utilizzo di smartphone e tecnologie simili, e allo stesso tempo rappresentanti di un ceto sociale in difficoltà per l'esigue possibilità economiche a disposizione. Il grado di partecipazione dei cittadini alla progettazione della città, quindi, non deve essere affidato esclusivamente ai mezzi di comunicazione moderni, ma anche a quelli tradizionali. Inoltre il governo locale deve occuparsi, qualora voglia realizzare in pieno la sua natura di Smart City, dell'educazione e alfabetizzazione dei suoi cittadini all'utilizzo delle ICT, che devono necessariamente soddisfare il requisito di accessibilità.

Nella Convenzione delle Nazioni Unite sui diritti delle persone con disabilità art. 9 si legge che "al fine di consentire alle persone con disabilità di vivere in maniera indipendente e di partecipare pienamente a tutti gli aspetti della vita, gli Stati Parti adottano misure adeguate a garantire alle persone con disabilità, su base di uguaglianza con gli altri, l'accesso all'ambiente fisico, ai trasporti, all'informazione e alla comunicazione, compresi i sistemi e le tecnologie di informazione e comunicazione, e ad altre attrezzature e servizi aperti o forniti al pubblico, sia nelle aree urbane che in quelle rurali".

Per valutare l'efficacia di questa nuova visione, sarebbe fondamentale poter quantificare quanto la dimensione smart possa essere utile al miglioramento del benessere dei cittadini di una città. Per far questo risulta utile il progetto di Cnel e Istat "BES–Benessere Equo e Sostenibile", il cui primo rapporto è stato presentato nel marzo 2013. Il BES si propone di fornire nuovi parametri statistici, non in sostituzione del Prodotto interno lordo ma a completamento dello stesso, in grado di descrivere l'intera completezza della qualità di vita di una persona attraverso 134 indicatori relativi a 12 dimensioni del benessere (Sabbadini 2013).

Il successivo passo necessario per misurazione della qualità di vita dei cittadini di una Smart City è la declinazione del Bes su scala locale. Il progetto UrBES, promosso dall'Istat insieme al Coordinamento dei

sindaci metropolitani dell'Anci, nasce con l'intento di sperimentare la misurazione del benessere equo sostenibile sul territorio. Per la rete delle città coinvolte può essere il primo passo per agevolare e stimolare lo scambio di best practice tra le aree metropolitane, così da favorire lo sviluppo di esperienze di partecipazione e di democrazia locale (Brasili e Giannini 2013); una rendicontazione periodica sullo stato di salute della città permetterebbe un giudizio dei cittadini sui risultati ottenuti dall'azione di governo degli amministratori oggettiva e legata a risultati analitici. Questo strumento di misurazione del benessere urbano può rivelarsi fondamentale per valutare quanto la dimensione smart di una città possa influenzare favorevolmente o meno la qualità di vita dei suoi cittadini, perché non avrà senso dirigere sempre più gli sforzi delle comunità verso questa direzione se non ci sarà un innalzamento del benessere dei cittadini.

Fig. 1 Primo rapporto BES-Benessere Equo e Sostenibile

2 LA TOTAL QUALITY PER IL BENESSERE DI TUTTI I CITTADINI

I limiti della misurazione del benessere con riferimento esclusivo alla situazione economica di un Paese sono noti già dal 1934, anno in cui Simon Kuznetz, ideatore della riforma della contabilità nazionale americana e del Pil, avvisava il Congresso degli Stati Uniti che il reddito nazionale non poteva essere lo strumento unico per la misurazione del benessere di un Paese. La questione ritorna all'attenzione della comunità mondiale grazie all'Organizzazione per la Cooperazione e lo Sviluppo Economico (OCSE) che a partire dal 2001 mette in campo una serie di iniziative volte alla promozione di un nuovo modo di misurazione del benessere sociale. Nella "dichiarazione di Istanbul" del 2007, adottata delle più grandi organizzazione internazionali, viene affermata ufficialmente la necessità di "*intraprendere la misurazione del progresso sociale in ogni paese, andando oltre le misure economiche convenzionali come il Pil pro capite*". In questa occasione viene lanciato dall'OCSE il Global Project on measuring progress of societies con lo scopo di individuare dei nuovi indicatori del benessere. Seguendo le iniziative europee Nicolas Sarkozy, allora Presidente della Repubblica Francese, istituisce la "Commissione sulla misurazione della performance economica del progresso sociale", nota come Commissione "Stiglitz-Sen-Fitoussi", nome derivatogli dai tre premi Nobel che l'hanno condotta. Nel settembre del 2009 vengono pubblicati i risultati dei lavori della commissione e si propone "*uno*

spostamento dell'enfasi dalla misurazione della produzione economica alla misurazione del benessere delle persone". Nello stesso anno anche la Commissione europea giunge alle stesse conclusioni; dopo la dichiarazione di apertura alla Conferenza "Beyond Gdp" del Presidente Barroso "*è tempo di andare dopo il Pil*" del 2007, ad agosto 2009 viene prodotta la comunicazione della Commissione Europea "Non solo Pil. Misurare il progresso in un mondo in cambiamento". Nell'autunno 2009 durante il summit di Pittsburgh i leader del G20 richiedono un lavoro sui metodi di misurazione "*che tenesse meglio conto delle dimensioni sociali e ambientali dello sviluppo economico*".

Nel 2010 durante la Conferenza dei presidenti e direttori generali degli Istituti nazionali di statistica europei si stabilisce come obiettivo l'inserimento di indicatori ambientali e sociali per il completamento del Pil costruendo una lista di indicatori per lo sviluppo sostenibile attraverso il "Memorandum di Sofia" e la costituzione dello Sponsorship Group "Misurare il progresso, il benessere e lo sviluppo sostenibile" all'interno del Sistema statistico europeo EES. Gli Stati membri dell'Unione Europea inseriscono così nella Strategia "Europa 2020" la volontà di superare il Pil.

Per affrontare questo tema in Italia il Consiglio nazionale dell'economia e del lavoro (Cnel) e l'Istituto nazionale di statistica (Istat) costituiscono un "Comitato di indirizzo sulla misura del progresso della società italiana" con l'obiettivo di sviluppare una definizione di benessere della società italiana BES-Benessere equo e sostenibile, i cui risultati sono stati presentati l'11 marzo 2013 presso il Parlamento alla presenza del Presidente della repubblica Italiana Giorgio Napolitano. Lo scopo è quello di rispondere all'ormai crescente necessità di misurare il benessere degli individui non solamente attraverso indicatori economici, ma con indicatori che integrino i valori economici con quelli ambientali e sociali.

Partendo dal concetto che il benessere di una società non può essere rappresentato da un unico indicatore statistico Istat e Cnel hanno deciso di utilizzare una pluralità di misure, raggruppabili in macrocategorie: salute, istruzione, lavoro, benessere economico, relazioni sociali, politica e istituzioni, sicurezza, benessere soggettivo, paesaggio e patrimonio culturale, ambiente, ricerca e innovazione e qualità dei servizi. Misurare il benessere e riflettere sui fenomeni che ne influiscono il livello, permette naturalmente di valutare le azioni necessarie per migliorare la condizione di un città, individuare gli obiettivi da raggiungere e pianificare interventi del governo locale.

Fig. 2 La pluralità di fattori che possono influenzare il benessere

In linea con quanto emerso del primo rapporto sul Benessere Equo Sostenibile, FIABA considera la qualità della vita urbana un intreccio di vari fattori come qualità dell'ambiente, degli spazi architettonici, delle condizioni economiche, di benessere e di coesione sociale. Quando una città ha una buona qualità di vita,

significa che la maggioranza della sua popolazione può fruire di una serie di vantaggi politici, economici e sociali che le permettono di sviluppare le proprie potenzialità umane e condurre una vita relativamente serena e soddisfatta. Una città di qualità è una città vivibile per tutti.

Il concetto di qualità ha però assunto nel tempo sempre maggiori significati e nuove implicazioni: da una dimensione esclusivamente "oggettiva" si è passati da una più "soggettiva.

Negli ultimi anni sono molto considerati gli indicatori di tipo sociale in base ai quali la qualità della vita in una città dipenderebbe dalla possibilità che i cittadini hanno di poter usare le risorse e i servizi disponibili e di mantenere quelle relazioni che loro ritengono fondamentali per la propria vita sociale.

Considerando valida questa visione individuale, appare ormai evidente la necessità di riferirsi alla qualità con definizioni che ne permettano una misurazione oggettiva. In ragione di ciò risulta molto interessante la definizione secondo cui "*Qualità significa conformità a requisiti*" (Crosby, 1979) o anche "*Qualità: grado in cui un insieme di caratteristiche intrinseche soddisfano i requisiti*" (Norma ISO 9000 del 2005: Fondamenti e Terminologia).

Da questo è desumibile che nell'accezione professionale recente, qualità viene intesa come ripetibilità di un processo e garanzia del risultato (Pepino, 2014).

In ragione di ciò la Qualità Totale promossa da FIABA si arricchisce di un ulteriore sfumatura: la certezza che l'ambiente risponda in ogni ambito a quanto richiesto dall'utente.

Una città di qualità è una città che permette a tutti i suoi cittadini di perseguire la ricerca del proprio benessere, senza creare discriminazioni dovute a disuguaglianze per deficit fisici, sensoriali o intellettivi.

In ragione di ciò l'ambiente urbano deve necessariamente rispondere al requisito di accessibilità.

Fig. 3 La misurazione della qualità

L'accessibilità viene definita nel Decreto Ministeriale n. 236 del 1989 come *"la possibilità, anche per persone con ridotta o impedita capacita motoria o sensoriale, di raggiungere l'edificio e le sue singole unità immobiliari e ambientali, di entrarvi agevolmente e di fruirne spazi e attrezzature in condizioni di adeguata sicurezza e autonomia"* , inoltre *"l'accessibilità esprime il più alto livello di qualità dello spazio costruito in quanto ne consente la totale fruizione nell'immediato"* (D.M. 236/89 art. 3.1).

In generale accessibilità viene definita come la caratteristica di un servizio, di una risorsa di essere fruita con facilità da un'utenza ampliata. Uno spazio urbano in grado di rendere facilmente fruibili le proprie risorse e servizi ad un'utenza ampliata garantisce un alto grado di qualità della vita.

L'obiettivo principale dell'accessibilità urbana è, dunque, quello di elevare il comfort dello spazio urbano per tutti i cittadini, eliminando tutti gli ostacoli che discriminano, a favore di un'uguaglianza di opportunità. Se si riducono le possibilità di scelta anche la qualità della vita si riduce; senza una piena ed effettiva partecipazione ed inclusione all'interno della società, si ledono i diritti umani, il rispetto per la dignità della persona. Le nuove forme di disuguaglianza urbana si basano proprio sull'accessibilità spazio – temporale e quindi non sono solo di carattere socio-economico.

Fruibilità e accessibilità totale devono diventare termini propri del linguaggio di ogni opera pubblica e privata che si vuole realizzare. È importante raccogliere anche l'esigenza di tutti che non è solo quella di vestirsi, mangiare e uscire. Non ci sono solo le esigenze primarie, ma ci sono anche quelle, per esempio, di divertirsi, di andare allo stadio, a teatro, al cinema.

La Convenzione delle Nazioni Unite sui diritti delle persone con disabilità, pubblicata nel 2007 in occasione dell'Anno europeo delle pari opportunità per tutti, riconosce "*l'importanza per le persone con disabilità della loro autonomia ed indipendenza individuale, compresa la libertà di compiere le proprie scelte*". Ecco perché FIABA si propone di abbattere tutte le barriere, da quelle architettoniche a quelle culturali, che precludono la possibilità di godere e vivere l'ambiente in tutte le sue forme. Per questo promuove la fruibilità universale e la progettazione di ambienti totalmente accessibili secondo i principi della Total Quality e dell'Universal Design, la "progettazione per tutti", finalizzata all'inclusione sociale e all'uguaglianza nel rispetto della diversità umana, attenta ai bisogni, alle esigenze e ai desideri delle persone.

La TOTAL QUALITY è la QUALITÀ TOTALE. Un concetto ampio che abbraccia tutti gli ambiti e che ha come obiettivo quello di raggiungere il quanto più possibile una vivibilità per tutti senza nessuna distinzione, ma soprattutto senza privilegiare determinate categorie: a tutti deve essere consentito di vivere l'ambiente in modo confortevole e sicuro. E ognuno, per raggiungere la qualità totale, ha la responsabilità di operare per migliorare lo status quo. Spetta certamente al cittadino comunicare situazioni di difficoltà, ma deve essere principalmente il soggetto che amministra a svolgere un'opera di prevenzione, realizzando un monitoraggio del territorio per renderlo, appunto, di qualità.

La Total Quality deve essere applicata al mondo dei trasporti, a quello dell'istruzione e alla sanità, ambiti fondamentali dove chiunque deve essere libero di muoversi ed e esprimersi in totale libertà e autonomia. La Total Quality è per tutti, perché un ambiente accogliente lo è per chiunque.

Per FIABA non esistono gruppi di persone con caratteristiche da catalogare ma esiste "la persona" con tutte le sue qualità e peculiarità e la disabilità non è il problema di una minoranza né l'unico ostacolo che una persona incontra nel corso della propria vita. Da tempo ormai si è superato il concetto di handicap, e attraverso la dicotomia tra disabile e normodotato, si sta velocemente approdando al concetto di persona con mobilità ridotta (PRM). Le norme europee sottolineano che l'accessibilità è un argomento che interessa un numero sempre maggiore di individui. Nella Decisione della Commissione Europea del 21 dicembre 2007 (n. 2008/64/CE) relativa ad una specifica tecnica in interoperabilità concernente le "persone a mobilità ridotta" nel sistema ferroviario transeuropeo convenzionale e ad alta velocità, vengono definite le persone con mobilità ridotta:

"*Per «persone con mobilità ridotta» si intendono le persone che hanno difficoltà a utilizzare il treno o la relativa infrastruttura. La definizione include le categorie seguenti:*

- *le persone su sedia a rotelle (persone che utilizzano una sedia a rotelle per muoversi a causa di malattia o disabilità);*
- *altre persone con problemi di mobilità, fra cui:*

- *le persone con problemi agli arti*
- *le persone con difficoltà di deambulazione*
- *le persone con bambini*
- *le persone con bagagli pesanti o ingombranti*
- *le persone anziane*
- *le donne in gravidanza*
- *le persone con disabilità visive*
- *i non vedenti*
- *le persone con problemi uditivi*
- *i non udenti*
- *le persone con problemi di comunicazione (persone che hanno difficoltà a comunicare o a comprendere il linguaggio scritto o parlato, compresi gli stranieri che non conoscono la lingua locale,*
- *le persone con difficoltà di comunicazione, le persone con difficoltà sensoriali, psicologiche e intellettive).*
- *le persone di bassa statura (compresi i bambini).*

Le disabilità possono essere di lunga durata o temporanee, visibili o nascoste.
Tuttavia, le persone con mobilità ridotta non comprendono gli alcolisti o i tossicodipendenti, tranne quando tale dipendenza è dovuta a una terapia medica.
Il trasporto di oggetti di dimensioni notevoli (per es. biciclette e bagagli ingombranti) non rientra nel campo di applicazione della presente STI. È invece oggetto delle norme, dei requisiti di sicurezza e delle decisioni commerciali del gestore dell'infrastruttura, del gestore della stazione o dell'impresa ferroviaria per quanto riguarda le dimensioni e il peso autorizzato e le disposizioni di sicurezza".
Risulta evidente come le disabilità motorie e sensoriali divengano una sottocategoria di un'insieme di persone molto più vasto, che incorpora in se situazioni momentanee che possono coinvolgere qualsiasi individuo.

Fig. 4 Design for all - progettazione per tutti

È per questo che FIABA promuove un dialogo continuo ed un confronto partecipato e comunicativo tra istituzioni, progettisti, specialisti ed utenti reali, al fine di proporre soluzioni unitarie nei vari settori della vita, per una maggiore consapevolezza e visione d'insieme e per fare rete attorno alla necessità di una qualità che sia davvero per tutti. Un nuovo metodo di lavoro che si basa sull'osservazione e lo studio delle situazioni reali, sull'ascolto reciproco, sulla discussione di ciò che i diversi utenti pensano e desiderano per gli ambienti e gli ausili che ritengono veramente utili e necessari.
In linea coi principi della Total Quality, FIABA ha promosso l'istituzione di una "Cabina di Regia per la Total Quality" in seno alle amministrazioni regionali, provinciali e comunali. Tale organo ha il compito di coordinare

le iniziative locali e individuare le criticità presenti nel territorio per promuovere l'accessibilità e fruibilità, il vivere in modo confortevole e contare su una migliore qualità di vita di concerto con tutte le associazioni di categoria, il terzo settore e le istituzioni pubbliche e private in grado di raggiungere tale obiettivo. Ad oggi la Cabina di regia è diventata realtà presso le amministrazioni provinciali di Ragusa, Catania, Viterbo, Pescara, Chieti, Salerno e presso i Comuni di Pescara, Lariano, Civitavecchia, Caltagirone, Viterbo e Belizzi.
Sempre in applicazione dei principi della Total Quality FIABA ha proposto l'istituzione della figura del Total Quality Manager, un tecnico esperto di Qualità Totale, in grado di interpretare il corretto management presso gli enti pubblici e privati e di effettuare scelte ed iniziative che conducano a progettare tutto quello che ci circonda, secondo il criterio guida per cui nessuno dovrà incontrare difficoltà in qualunque momento della vita e per qualunque servizio di cui necessita. Se sarà assolta questa condizione chiunque vedrà ogni difficoltà automaticamente risolta e percepirà migliorata la sua qualità di vita.

Fig. 5 Piazza Colonna durante il FIABADAY 2013

3 SMART CITY, NON SOLO ICT

Molto spesso quando si sente parlare di Smart City, il primo collegamento che si fa è quello con le ICT, ovvero le infrastrutture di comunicazione e informazione moderne. Affinché la vocazione di riduzione delle disuguaglianze della Smart City si realizzi, non va sottovalutata e dimenticata l'importanza delle infrastrutture di comunicazione tradizionali, ovvero i trasporti.
Il cittadino di una Smart City non vanta semplicemente il consueto "diritto alla conoscenza", ma il ben più ambizioso "diritto alla partecipazione" (Vademecum per la città intelligente 2013). I cittadini devono poter prender parte alle scelte per il futuro della loro città. Inoltre fondamentale per l'incremento della

competitività urbana è permettere la comunicazione del capitale umano, quindi la trasmissione di informazioni tra i cittadini e le loro relazioni interpersonali. Per far si che queste imprescindibili premesse siano in atto, ciascuno deve poter vivere l'ambiente e accedere alle risorse della città in totale autonomia e libertà.

Un semplice esempio: una persona con disabilità potrebbe con uno smartphone utilizzare l'app per sapere tra quanto passerà l'autobus e se abilitato per il trasporto di persona con mobilità ridotta, ma qualora la rampa del mezzo fosse in disuso o la fermata fosse progettata erratamente e non adeguata al dispositivo oppure le auto ostruissero l'accesso (casi citati non a caso, ma spesso verificabili), l'utilità della tecnologia verrebbe immediatamente annullata.

Per questo FIABA ritiene che l'attitudine della Smart City per lo sviluppo della comunicazione e la condivisione delle idee tra i suoi cittadini non possa realizzarsi solo attraverso le ICT ma anche adeguando e migliorando il sistema dei trasporti, qualora una delle finalità sia lo sviluppo delle reti sociali e relazionali e della propensione all'inclusione e alla tolleranza.

L'accessibilità totale dei sistemi di trasporto è un argomento di difficile trattazione e complessa realizzazione, ma attraverso una più attenta progettazione FIABA ritiene sia possibile raggiungere un livello di fruibilità tale da permettere l'utilizzo in autonomia di qualsiasi persona.

La legge n. 118/71 stabiliva nell'art. 27 "i servizi di trasporti pubblici ed in particolare i tram e le metropolitane dovranno essere accessibili agli invalidi non deambulanti".

Nella legge n. 104/92 nell'art. 26 si legge "1. Le regioni disciplinano le modalità con le quali i comuni dispongono gli interventi per consentire alle persone handicappate la possibilità di muoversi liberamente sul territorio, usufruendo, alle stesse condizioni degli altri cittadini, dei servizi di trasporto collettivo appositamente adattati o di servizi alternativi. 2. I comuni assicurano, nell'ambito delle proprie ordinarie risorse di bilancio, modalità di trasporto individuali per le persone handicappate non in grado di servirsi dei mezzi pubblici."

Nel Decreto del Presidente della Repubblica n. 503 del 24 luglio 1996 nell'art. 1 viene specificato che le norme per l'abbattimento delle barriere architettoniche devono essere applicate anche "ai servizi speciali di pubblica utilità", intendendo mezzi di trasporto tranviario, filoviario e metropolitano.

I problemi connessi con la mobilità richiamando l'attenzione sulla necessità di una progettazione rivolta indistintamente a tutta l'utenza; infatti continuare a parlare di progettazione mirata per la disabilità è come volere continuare a sottolineare una diversità tra i cittadini. In tale quadro, la mobilità sostenibile rappresenta uno dei punti focali dello sviluppo e della qualità delle nostre città e dell'adeguamento dei trasporti alle necessità di tutta la popolazione. La piena possibilità, pertanto, di fruire dei trasporti, prima di essere un obbligo, in molti casi già normato per legge, deve diventare una prassi per le imprese pubbliche e private del settore, che sulla base delle nuove tecnologie e di un'appropriata progettazione devono migliorare i loro servizi conformandoli alle esigenze dell'utenza. Appare, quindi, evidente la necessità di adeguare i mezzi di trasporto e le infrastrutture attraverso il rinnovo, la ristrutturazione e il potenziamento dei servizi. Il sistema trasporti, sia su gomma che su ferro, sia via mare che via cielo, inoltre costituisce uno dei pilastri economici del Paese ed in questo momento di profonda crisi rappresenta l'occasione peculiare e determinante per essere di sostegno alla crescita economica ed all'adeguamento del settore alle esigenze di accessibilità di tutti indipendentemente dalle proprie condizioni fisiche. E' necessario, pertanto, non solo allinearsi a quanto previsto dalla normativa europea ed alle sue Direttive, ma soprattutto puntare su un nuovo e più avanzato modo di considerare, concepire e progettare l'accessibilità di ogni singola infrastruttura.

Ogni settore del trasporto urbano presenta criticità differenti e caratteristiche proprie. Il trasporto locale urbano su gomma necessita di una progettazione accurata delle infrastrutture urbane; è comprovato che le

fermate a penisola risultano maggiormente funzionali di quelle a golfo, ma purtroppo se ne vede raramente l'utilizzo nelle nostre città. Inoltre i mezzi abilitati alla ricezione di utenti con disabilità sono una minima percentuale rispetto l'intero parco mezzi dei vettori. Molto spesso la colpa viene imputata alle pessime condizioni economiche in cui versano le aziende di Trasporto Pubblico Locale (TPL); l'indisponibilità di risorse economiche spendibili per l'acquisto di nuovi mezzi obbliga le aziende ad utilizzare quelli ormai vecchi e affaticati dal tempo. Le rampe estraibili, montate sugli autobus, risultano spesso disabilitate e gli spazi interni non sembrano essere progettati per favorirne la fruibilità dai viaggiatori.

Fig. 6 Autobus per il trasporto locale con rampa per disabili in funzione

Altre sono le specificità del trasporto su ferro; emblematica è l'espressione "salire sul treno", quando in realtà dovremmo semplicemente "entrarvi" (Legnani 2013).

Per quanto concerne l'accessibilità delle infrastrutture e i mezzi del trasporto ferroviario FIABA propone un iter progettuale suddiviso in step successivi, con l'utilizzo di sistemi di transizione, attualmente in utilizzo e riconosciuti dagli organi di controllo, che permettano l'esercizio ordinario anche nelle diverse fasi di sviluppo del progetto di adeguamento.

La Decisione della Commissione Europea n. 2008/64/CE ha come obiettivo il miglioramento dell'accessibilità "del trasporto ferroviario per le persone con ridotta mobilità, comprese le aree pubbliche dell'infrastruttura" con particolare attenzione ai problemi posti dall'interfaccia marciapiede-treno.

Nella stessa viene prescritta la presenza obbligatoria di "ausilio per la salita a bordo da utilizzare fra la porta in questione e il marciapiede per consentire al passeggero su sedia a rotelle di salire o scendere dal treno" con l'esclusione di casi particolari esplicitati. Sono contemplati come dispositivi di ausilio per la salita a bordo riconosciuti, oltre al discriminante elevatore largamente in uso nelle nostre stazioni, la rampa e la piattaforma di accesso, strumenti che rispondono positivamente al diritto di autonomia della persona con disabilità.

Meritevole di citazione è quanto Trenord sta facendo in termini di accessibilità. La società nata dall'unione di esperienza, competenza e strutture di Trenitalia (Divisione Regionale Lombardia) e Gruppo FNM (LeNORD) gestisce il servizio ferroviario suburbano e regionale, il servizio di collegamento aeroportuale Malpensa Express e quello transfrontaliero Como-Chiasso e Malpensa-Bellinzona, per un totale di 2.300 corse al giorno, che in larga misura confluiscono verso il nodo di Milano. La scelta fatta da Trenord è quella di investire nell'abbattimento delle barriere architettoniche, nell'accessibilità globale delle stazioni e dei suoi mezzi. Allo stato attuale risulta accessibile il 48% della flotta, con un investimento già programmato per il 2015 che innalzerà la percentuale al 70% (Legnani, 2013). Investimenti sono stati realizzati anche nella digitalizzazione dei sistemi di comunicazione nelle stazioni, le cosiddette stazioni smart munite di teleindicatori degli orari e dell'andamento dei treni, monitor di stazione con informazioni sulla circolazione e del servizio ferroviario, digital signage e colonnine Infopoint per comunicazioni dirette anche in caso di pericolo.

4 SMART CITY PER IL SOCIALE

Una delle finalità delle Smart City è l'inclusione sociale attraverso al partecipazione del capitale umano nella progettazione dei servizi pubblici ai residenti. La città di Southampton, prediligendo questa dimensione di Smart City, si è dotata di un'innovativa smart card in grado di accedere più facilmente ai servizi per i cittadini, permettendo così una gestione più efficiente e meno dispendiosa delle autorità municipali. Le smart card contengono al loro interno dati personali protetti, tra cui anche dettagli relativi alla presenza di disabilità motorie, sensoriali e cognitive della persona. Dal profilo conseguente all'inserimento dei dati, la smart card abilita i relativi servizi, come pass o esenzioni per i mezzi di trasporto, le biblioteche o le associazioni.

In Italia, dove le città aderenti all'Osservatorio Nazionale Smart City di ANCI stanno sperimentando nuove forme di città intelligente, diversi sono i progetti rivolti all'inclusione sociale e al miglioramento della qualità di vita delle persone con disabilità.

Il Comune di Verona, nel tentativo di trasformare la mobilità urbana in smart mobility, ha realizzato il progetto Citypass aggiudicandosi il Premio Smart City di SMAU Padova 2013. Il sistema progettato permette il rilascio del pass disabili europeo attraverso una piattaforma applicativa, con una gestione autonoma dei contrassegni "invalidi". Lo scambio di dati permesso dal sistema scelto produce un maggiore controllo da parte delle amministrazione pubbliche, sia per quanto riguarda le falsificazione che l'uso improprio del permesso. Concretamente, attraverso il Citypass, i veicoli al servizio delle persone disabili possono accedere liberamente alle Zone a Traffico Limitato di tutti i comuni della provincia che hanno aderito al progetto.

Sempre nell'ambito dei servizi alle persone con disabilità il Comune di Genova ha dotato le soste auto per disabili in centro con sensori collegati al centro di controllo della Polizia municipale così da poter sanzionare chi vi parcheggia senza diritto. Appositi `pass spia´ installati sulle auto dialogando con sensori annegati nell'asfalto indicheranno in tempo reale chi sosta senza diritto nei parcheggi attivando l'intervento dei vigili urbani. Per quanto riguarda l'accessibilità nel tempo libero e nella cultura, positivo è quanto fatto dal Comune di Fabriano con il portale Turismo Accessibile. L'idea è quella di promuovere l'accessibilità turistica del Territorio e nasce inizialmente a Fabriano con un Progetto dell'Associazione Strabordo denominato "Turismo accessibile: pari opportunità ed opportunità di sviluppo". Tale esperienza viene in seguito sviluppata e condivisa tra i comuni dell'area montana (Arcevia, Cerreto d'Esi, Cupramontana, Fabriano, Genga, Mergo, Rosora, Sassoferrato, Serra San Quirico, Staffolo) e il Sistema Turistico della Marca Anconetana con un secondo progetto "Turismo accessibile: pari opportunità ed opportunità di sviluppo nella Marca Anconetana". Lo scopo è quello di esaminare i siti di particolare interesse culturale e paesaggistico, individuandone gli itinerari fruibili, le criticità ed i servizi disponibili per persone con mobilità ridotta, così da consentire un agevole reperimento delle informazioni necessarie per vivere appieno il territorio.

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Fig. 5: http://www.designforall.it/

Fig. 6: archivio FIABA Onlus

AUTHOR'S PROFILE

Giuseppe Trieste

Presidente di FIABA (Fondo Italiano per l'abbattimento delle Barriere Architettoniche), ha un brillante trascorso nello sport con la partecipazione a tre Paralimpiadi 1972-76-80 in cui conquista tre medaglie d'oro e tre di bronzo. Cofondatore dello Sport per disabili, nel 1983 costituisce ANTHAI che presiede per i successivi 20 anni. Nel 2000 costituisce FIABA Onlus, organizzazione non lucrativa di utilità sociale che si dedica alla missione di promuovere la fruibilità universale e la progettazione di ambienti ad accessibilità totale secondo i principi dell'Universal Design, per una piena integrazione sociale e per le pari opportunità. Membro dell'Osservatorio Nazionale sulla condizione delle persone con disabilità, è stato nominato componente della Consulta delle Associazioni dell'Osservatorio permanente per l'integrazione degli alunni con disabilità del MIUR e del Comitato per la promozione e il turismo accessibile del Ministero dei Beni e Attività Culturali e Turismo

Silvia Gabrielli

Nata a Roma il 28 maggio del 1985, si laurea in Ingegneria Edile-Architettura presso l'Università degli Studi di Roma "Tor Vergata" all'età di 25 anni. Da due anni lavora presso FIABA Onlus, occupandosi dell'Ufficio Tecnico e affiancando il Presidente presso Tavoli Tecnici e Gruppi di lavoro in seno alle Istituzioni. Sempre per FIABA collabora con gli ordini professionali in iniziative per la sensibilizzazione sul tema dell'abbattimento delle barriere architettoniche, sensoriali e culturali.

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THE DETERMINANTS OF TRANSPORTATION MODE CHOICE

IN THE MIDDLE EASTERN CITIES: THE KERMAN CASE, IRAN

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ABSTRACT

Having a precise understanding of the determinants of transportation mode choices and decisions can be under the influence of regional and cultural aspects. This paper outlines such determinants in the Iranian city of Kerman as a representative of the similar Middle Eastern cities located in hot-arid climates and Moslem cultures. The descriptive analysis of the results derived from a short survey that was a part of a larger study conducted in the second half of 2013 indicated that adding to accessibility to public transportation and the convenience of using it can persuade people to shift from car driving to public transit use. The main barriers to bicycling are socio-cultural aspects, while for walking the obstacles are physical and environmental. Increasing the quality of pedestrian infrastructure and spaces is a stronger deterrent than personal attitudes against walking. Such findings show slight dissimilarities from the results of some of the western studies that find the built environment more effective. Chi-square tests indicates that the four variables of gender, household size, age, and household car ownership significantly affect modal choice decisions. These findings can be a general guide for the Middle Eastern planners to promote walking, biking, and public transport use.

KEYWORDS:
Sustainable Mobility; Urban Transportation planning; Transportation Mode Choice; The Middle East; Iran

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中东城市选择交通方式的决定因素——伊朗克尔曼案例研究

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摘要

要准确理解选择和确定交通方式的决定因素，必须要考虑地区和文化方面的影响。本文以伊朗的克尔曼作为气候干热兼穆斯林文化的中东城市的典型代表，整体描述了这些决定因素。对 2013 年下半年研究中一份简单调研结果的描述分析表明，通过增加公共交通的便利性和舒适性，可以促使人们放弃驾车，改乘公共交通。自行车的障碍主要来自社会文化方面，而步行的障碍是生理和环境。改变人们对于步行的负面态度，比改善人行道基础设施和空间质量更有效。这些发现与西方一些认为环境建设更重要的研究略有不同。卡方分布测试（Chi-square tests）表明性别、家庭规模、年龄及家庭汽车持有量四个因素对出行方式选择有重大影响。这些发现可以为中东规划者们在推动步行、自行车及公共交通方面提供综合指导。

关键词
可持续交通系统、城市交通规划、交通方式选择、中东、伊朗

1 INTRODUCTION

Identifying the most effective motives behind mobility decisions is essential for planners and decision makers to set transportation policies. The complexity of personal decisions has become more obvious when a wide range of variables including observed and unobserved ones are brought in the analyses. Comparing the significance of different determinants gives the planners the opportunity to distinguish the most influential factors based on which transportation system can be constructed.

Since the dominant factors may be varying in different cultures and climatic conditions, the necessity of stand-alone studies becomes clear. A large body of research about such factors comes from the western countries, while regions with clearly different cultures and climates like the Middle East have been understudied. In case major differences in the affecting factors are seen, the planners and strategists of countries similar to Iran are recommended to make use of the priorities set by this study and the like.

This study tries to explain the factors affecting short-term mobility decisions such as commute and non-work trips by employing a short survey which was conducted in 2013 in Kerman, Iran. The objective is to, firstly, define the factors for personal car, public transportation, bicycling, and walking separately. Secondly, it is aimed to compare the Iranian determinants with the outcomes of the similar western literature.The outcomes are suggested to act as potential generators of mobility behavior change and producers of modal shift through time.

2 DETERMINANTS AFFECTING TRAVEL MODE CHOICE

The determinants affecting modal choice can be divided into two main categories which are physical and personal/societal factors. The physical or environmental factors contain built environment including urban design and transport infrastructure, while the personal/household attributes, personal preferences, lifestyles, income, perceptions, social issues, etc. make up the influential personal/societal aspects. The recent studies have emphasized on the importance of subjective determinants of travel behavior such as life situation and lifestyle as well as environmental factors like urban form. The subjective determinants can include socio-economic and cultural specifications which can have direct or indirect impacts on transportation mode choice. The examples of such works have been conducted on German case studies (such as Scheiner & Holz-Rau, 2010). The weight given to physical issues in the related urban transportation planning literature has been obvious. An example is Zhao et al (2002) who divide the effective factors into five main categories, namely travel mode Level of Service (LOS), accessibility, land use/ urban design, transit users' socioeconomic/demographic characteristics, and finally characteristics of the trips. Only one of the five groups of parameters of this research has been allocated to personal/societal phenomena. Also as Racca and Ratledge (2004) note, the factors which have been frequently examined in the literature are mode travel time, mode costs, income, availability of personal vehicle, parking availability and costs, access to alternative modes, time of the day of transit service and service frequencies, population densities, land use traits, and transit service factors. As a part of physical attributes, urban land use factors such as mix of uses, density, neighborhood design, and job-housing balance have been considered as prominent attributes that determine transportation choices (for example: Holtzclaw et al. 2002; Cervero&Radisch, 1995; Kitamura et al. 1994; Plaut&Boarnet, 2003). A similar category of studies are those that consider the measurable factors related to travel attributes. These characteristics are often other than human-perceived qualities. For example a survey (Neel-Schaffer, 2011) done on Mobile County in Alabama shows that the residents of a typical American county find lack of physical facilities the most important barrier that prevents them from walking/biking. Travel distance/time has also been repeatedly considered as a deterrent to commute bicycle use, for example Antonakos (1994) concluded that trip length in bicycle commute trips is significantly shorter than that of recreational trips.

Combinations of social/attitudinal and environmental determinants have also been studied, such as a research on 7 Czech cities and their suburbs that focused on neighborhood type, accessibility to facilities, socio-economic factors, and individual preferences and lifestyles (Braun Kohlová, 2009).

AUTHOR	YEAR	COUNTRY OR STATE OF OBSERVATION	STUDY TYPE		MODE	STUDIED DETERMINATS
			SURVEY	RESEARCH		
Scheiner&Holz-Rau	2010	Germany		×	General	Socio-economic, Cultural specifications
Zhao et al	2002	USA		×	General	Level of Service, Accessibility, Land use, Urban design, Transit users, Socioeconomic, Demographic Characteristics, Characteristics of the trips
Racca and Ratledge	2004	USA		×	General	Mode travel time, Mode costs, Income, Availability of personal vehicle, Parking availability and costs, Access to alternative modes, Time of the day of transit service and service frequencies, Population densities, land use traits, Transit service factors
Holtzclaw et al.	2002	USA		×	General	Physical attributes, Urban land use factors, Density, Neighborhood design, job-housing balance
Cervero&Radisch	1995	USA		×	General	Physical attributes, Urban land use factors, Density, Neighborhood design, job-housing balance
Kitamura et al.	1994	USA		×	General	Physical attributes, Urban land use factors, Density, Neighborhood design, job-housing balance
Plaut&Boarnet	2003	USA		×	General	Physical attributes, Urban land use factors, Density, Neighborhood design, job-housing balance
Neel-Schaffer	2011	Alabama	×		Walking, Biking	Travel attributes
Antonakos	1994	USA	×		Bicycle	Travel attributes
Braun Kohlová	2009	Czech		×	General	Neighborhood type, Accessibility to facilities, Socio-economic factors, Individual preferences and lifestyles
Krizek	2000	Alabama		×	General	Socio-demographic and individual/household attributes
Scheiner& Kasper	2003	Germany		×	General	Socio-demographic and individual/household attributes
Scheiner	2005	Germany		×	General	Socio-demographic and individual/household attributes
Axhausen et al.	2006	USA		×	General	Socio-demographic and individual/household attributes
Scheiner&Holz-Rau	2013	Germany		×	General	Socio-demographic and individual/household attributes
Johansson et al.	2006	Sweden		×	General	Environmental preferences, Safety, Comfort, Convenience and flexibility
Vredin et al	2006	Sweden		×	General	Flexibility, Convenience, Comfort, Environment important
Steg and colleagues	2001	Netherlands		×	Car	Socio-demographic, Socioeconomic variables account
Bhat	1997	USA		×	Car	Personality traits and attributes, Household/individual socio-demographics
Garvill et al.	2003	Sweden		×	Car	Personality traits and attributes, Household/individual socio-demographics
Bhat&Sardesai,	2006	USA		×	Car	Personality traits and attributes, Household/individual socio-demographics
Creemers et al.	2012	Belgium		×	Light Rail	Socio-economics, Attitudinal factors and perceptions
Chatterjee	2011	England		×	Bus	Socio-economics, Attitudinal factors and perceptions
Murray et al.	2011	New Zealand		×	Public Transport	Socio-economics, Attitudinal factors and perceptions
Goldsmith	1992	USA		×	Walking, Bicycling	Traffic safety, Convenience, cost, Valuation of time, Valuation of exercise, Physical condition, Family circumstances, Habits, Attitudes and values, Peer group acceptance
The Gilmore Research Group	2007	USA	×		Walking, Bicycling	Attitudinal factors and perceptions
TDC	2007	Australia	×		Car	Perceptions
Holzer et al	2013	USA	×		Bus, Rail	Bus and rail travel choices

Tab. 1 Summarization of literature related to the determinants of mode choice

Nevertheless a number of other studies have examined the effects of socio-demographic and individual/household attributes. Such variables should be added to other self-selections and psychological decisions like the transportation choices related to residential location (Krizek, 2000; Scheiner& Kasper, 2003; Scheiner, 2005; Axhausen et al. 2006; Scheiner&Holz-Rau, 2013). A Swedish study has demonstrated the significance of individual preferences such as environmental preferences, safety, comfort, convenience and flexibility in determining travel modes (Johansson et al. 2006). Similarly Vredin et al (2006) find personal attitudes about flexibility, convenience, comfort, and environment important in defining modal choices. Steg and colleagues (2001) showed that socio-demographic and socioeconomic variables account for 21% of the car travels. Personality traits and attributes, household/individual socio-demographics as well as awareness of alternative transportation have particularly been focused in similar researches (Bhat, 1997; Garvill et al. 2003; Bhat&Sardesai, 2006). Socio-economics, attitudinal factors and perceptions have been found to be important in choosing light rail transit in Flanders, Belgium (Creemers et al. 2012), bus in England (Chatterjee, 2011), and public transport in New Zealand (Murray et al. 2011). An older study undertaken by U.S. Federal Highway Administration finds a couple of subjective parameters effective in decisions made for choosing walking and bicycling including traffic safety, convenience, cost, valuation of time, valuation of exercise, physical condition, family circumstances, habits, attitudes and values, and peer group acceptance (Goldsmith, 1992).

Personal reasons affecting walking/biking decisions seem to have an undeniable role in shaping modal split. A survey conducted on Washington State shows that people have chosen the following options as reasons for not walking: disability/other health impairment (39%), too busy (18%), don't want/don't enjoy it (5%), other (15%), and don't know (7%). The personal reasons for not biking are: don't know how to ride/no bicycle (45%), don't want to (12%), too busy (12%), no safe place to ride (6%), age (6%), prefer to walk/jog (4%), bad weather (4%), other (6%), and don't know (2%) (The Gilmore Research Group, 2007).

The first most influential factors are related to parking, car availability, and price. Speed and what people perceive about stress and joy as well as awareness about environment are the other causes of decisions. Every respondent provided more than one reason about their choice reasons. The report also shows that Sydney residents use personal car mostly because of its speed and also the problems and deficiencies of bus and trains systems. They also believe that car is a better mobility mode because it can take them near their destination any time they wish with more comfort (TDC, 2007 cited in Corpuz, 2008). A recent survey undertaken by Holzer et al (2013) from Central Houston Inc. on commute travels in downtown Houston shows that several factors define bus and rail travel choices, strongest of which are to avoid driving in traffic (81%) and saving gas (77%) (Holzer et al. 2013). The above studies are listed in Tab. 1.

3 METHODOLOGY

To partially represent Middle Eastern cities, Kerman is taken as observation area. As a part of a larger study, people in 4 neighborhoods of western Kerman were asked about their transportation choices and preferences. Situated in south east of Iran, the city of Kerman accommodates 527650 people in 11370.86 hectares (2013). The short survey contained 800 questionnaires where 200 were allocated to each neighborhood. The data collection covered 1.5 persons out of 1000 residents of Kerman. Bahonar, Amir Kabir, Motahari, and Pars were the four neighborhoods which accommodate 2722, 1845, 2663, and 3028 residents respectively (Fig. 1). The neighborhoods are selected in a way that the family conditions such as household size and income are near to that of the city averages.The population densities of the four neighborhoods are 80.05, 61.05, 76.08, and 94.62 persons per hectare respectively, which can be compared to the density of Kerman city which is 40 persons per hectare.

Like many cities of the Middle East, the city of Kerman has hot-arid climate which possibly lays affect urban mobility-concerned personal decisions. In 2011 Kerman had a population of 534441 people which is comparableto cities like Ad-Dammam, Saudi Arabia (744.321- 2004), Zahedan, Iran (534.773- 2003), Imbaba, Egypt (523.265, 1996), At-Ta'if, Saudi Arabia (521.273- 2004), Amarah, Iraq (511542- 2012), Ramadi, Iraq (483.209- 2004), and Al Mahallah al Kubra, Egypt (535,278- 2012). 51.4% of Kermanis are and 48.6% are female, while this figure is 50.4 to 49.6 for Iran. In Kerman the average age is about 28, while this figure for Iran and the Middle East are 29.86 and 25.3. The average monthly income is 11500000 Rial in Kerman which is less than the Iranian average of 13690000 Rial. The daily mean July temperature of Kerman is 28.4 degrees Celsius which is comparable to 28.3 in Cairo, 27.2 in Beirut, 34.3 in Basra, and 29.4 in Tehran. Majority of the residents of Kerman are Muslim such as most of Iranians (99.4%) and Middle Eastern people (95%). In general, the socio-cultural conditions give the case-study area possibility to represent considerable parts of Iran and the Middle East.

The questions concerning decisions for or against non-motorized transportation and public transit were asked in face-to-face interviews in autumn 2013. Apart from the individual and household attributes, the interviewers asked the respondents about the main reasons and factors behind their transport mode choices. 5 questions were asked to clarify these decisions, including (1) the main reason for personal car use in commute trips, (2) the main reason for commute and non-commute public transportation use, (3) the main factor against public transportation use, (4) the main factor against bicycling as a mode for non-commute trips, and (5) the main factor against walking as a mode for non-commute trips. Each interviewee was asked to choose one of the options or add a new option. The logic behind choosing one option is that the study sought to find the main motive for selecting or rejecting each transport mode. During the survey it happened that the respondents did not find any relations between the options and their motives and suggested to add new options. The survey was conducted during day time of October and November of 2013.

Among the limitations of this study lie difficulties of doing surveys by mail, email, and telephone in Iran. The mentioned survey techniques are seldom done. People know little about mail surveys and there is little trust to telephone data collections. As a result face-to-face interview was employed as the surveying technique although it might have bias to some extent.

To answer the question about car use, the respondents chose from a variety of options such as price, convenience, safety/security, speed, accessibility, and personal interest. The 11 factors that may influence on public transportation decisions are price, speed, safety/security, personal interest, price of car fuel, unavailability of car, and awareness and interest to improve public transport use culture (awareness of public transportation), convenience of use, distance to stations, accessibility, and social issues. 4 dissuading phenomena such as social problems and security, facilities and routes, price, and personal interest were triggered in question 4. Finally, trip length, environment and routes, safety/security, social problems, and personal interest were asked about as deterrents to walking trips.

Social problems that are discussed in this study refer to the general look of residents or social attitudes that limit others' transport choices. Cultural habits and religious beliefs may restrict some transportation behaviors. For example, bicycling by women can be strange in some sub-cultures, which may cause women not to bike at all. Another example is perception about lack of security which affects walking at night, particularly for women. Also what people perceive about wealth or social class can push other people to use more personal cars. Convenience is a crucial word that needs definition. Independence of time, reliability and comfort are the main qualities that a convenient transportation mode offers according to Noland and Kunreuther (1995). This study takes this definition to make usage of "convenience" clear. The most important convenience-related element that car use provides is door-to-door mobility that attracts many people (Huey & Everett, 1996). In addition, what people called "convenient" was a mode that had less waiting time. Also people are asked about

two indicators of availability of public transportation; one is accessibility to public transportation, which refers to the distances from the houses to the public transport lines and stations, and the second is distance between PT lines (buses).

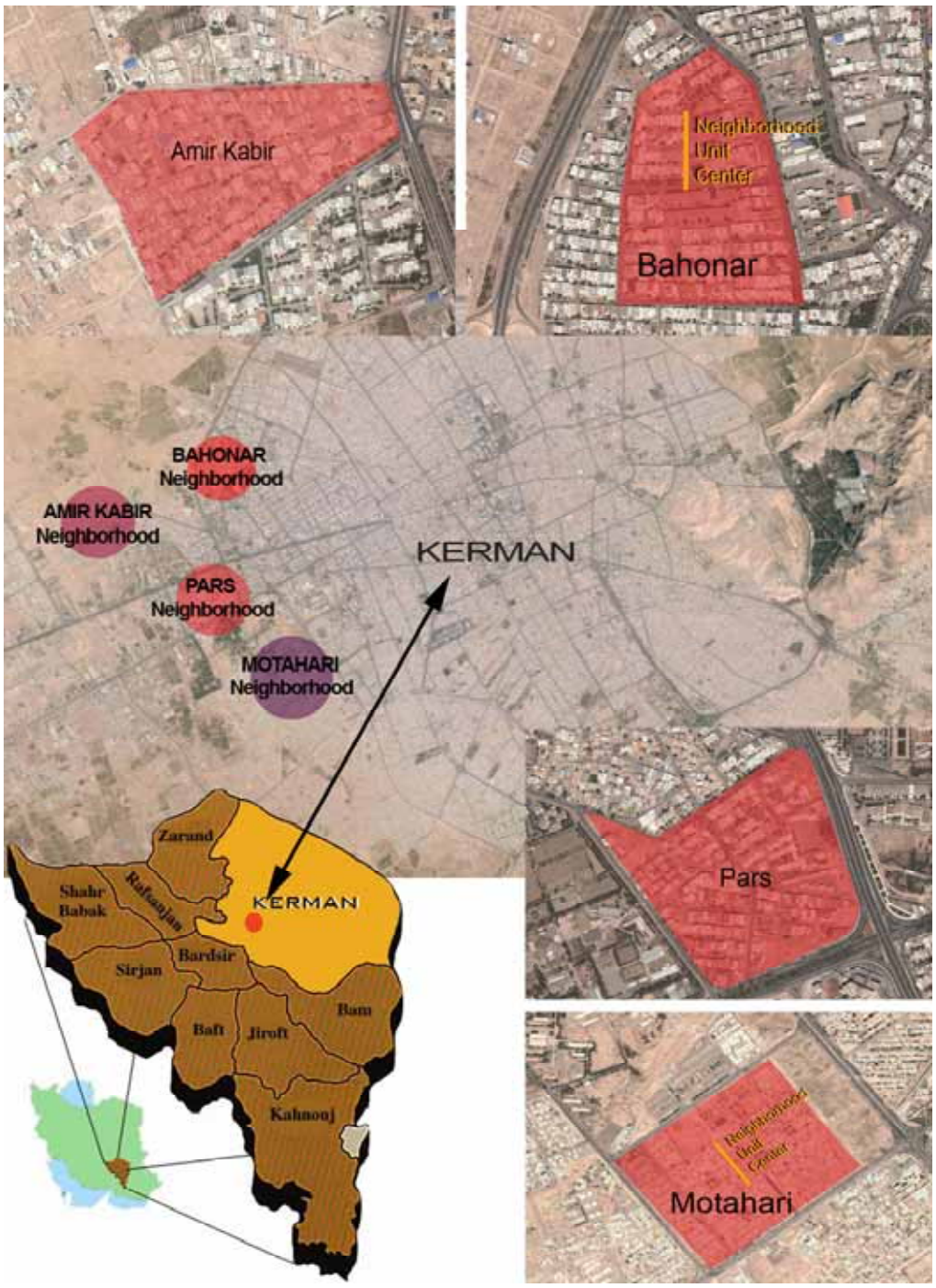

Fig. 1 Location of the case-study areas

The questions are designed to give and understanding of socio-cultural factors versus built environment characteristics. The outcomes are presented in both neighborhood and city levels. The dissimilarities in case of walking and bicycling are also triggered. The interviewees were taken in a random confrontation in the streets of the target areas in a way that the questions were asked from an equal share of women and men. Table 4 indicates the demographic and individual specifications of the respondents in general.

	AVERAGE	FREQUENCY	SHARE
1.Gender			
Male		416	52%
Female		384	48%
2.Age	30.75		
3.Daily Activity			
Work		376	47%
Study		368	46%
Housekeeper		56	7%
4.Car Ownership			
Owning Driving License		643	80.40%
Individual Car Ownership		387	48.40%
Household Car Ownership	1.6		
Household Size	4.2		
5.Household Income			
No income		0	0%
Less than 7,000,000 Rial*		44	5.50%
7,000,000 - 13,000,000 Rial		180	22.50%
13,000,000 – 20,000,000 Rial		236	29.50%
20,000,000 – 30,000,000 Rial		243	30.40%
More than 30,000,000 Rial		97	12.10%

*Rial is the official currency of Iran. One US Dollar equaled 28000 Rial at the time of survey.

Tab. 2 Individual and demographic specifications of the sample

In order to find associations between the collected data with the socio-economic characteristics of the study area, four variables including gender, household size, age, and household car ownership with the results of the five mode choice–related questions are statistically tested. Since all the variables are categorical, Pearson chi-square test is taken. Significance is tested via a level of confidence is 95%.

The null hypothesis is that the compared socio-demographic groups do not differ from one another based on their main reason of choosing transportation modes. The null hypotheses are rejected in case p-values are less than 0.05.

The four socio-demographic variables are categorized into different groups so that categorical variables are resulted. Gender is a categorical variable by itself, while household size is divided to “alone & small family” that stands for families 3 and less members. “Mid-sized family” has 4 or 5 members, and “large family” consists of 6 or more members.

Age is categorized to three groups, including “young” with 29 year of age or less, “middle age” referring to people between 30 and 49 years, and “old” that stands for residents with 50 years or more. Household car ownership is divided into 3 categories consisting availability of “0”, “1”, “2”, and “3 or more” car(s) per household.

4 FINDINGS

The observation results are divided into two parts of descriptive analysis of the frequencies of responses in the study areas and statistical analysis of the output raw data.

4.1 DESCRIPTIVE ANALYSIS

During the past decades the car use rate has jumped in the same time that the urban population increased after 1960s and 1970s. This study gives a raw answer based on the end users' opinions. The most prominent is convenience of car use compared to other modes. As seen in Fig. 2, 37.9 percent of the interviewees use personal cars because they find it more comfortable, albeit the residents of case study neighborhoods have different perceptions about the importance of this option. 27 percent of the residents of "Pars" have chosen "convenience" as the most important motif for car driving, while this figure is 53.8 percent in "Bahonar", which is extremely high. "Convenience" been selected far more than "it is faster" with 19 percent, "high safety and security" with 17.3 percent, and "it is cheaper" with 14.5 percent. Individual interest to driving and price are marginal factors.

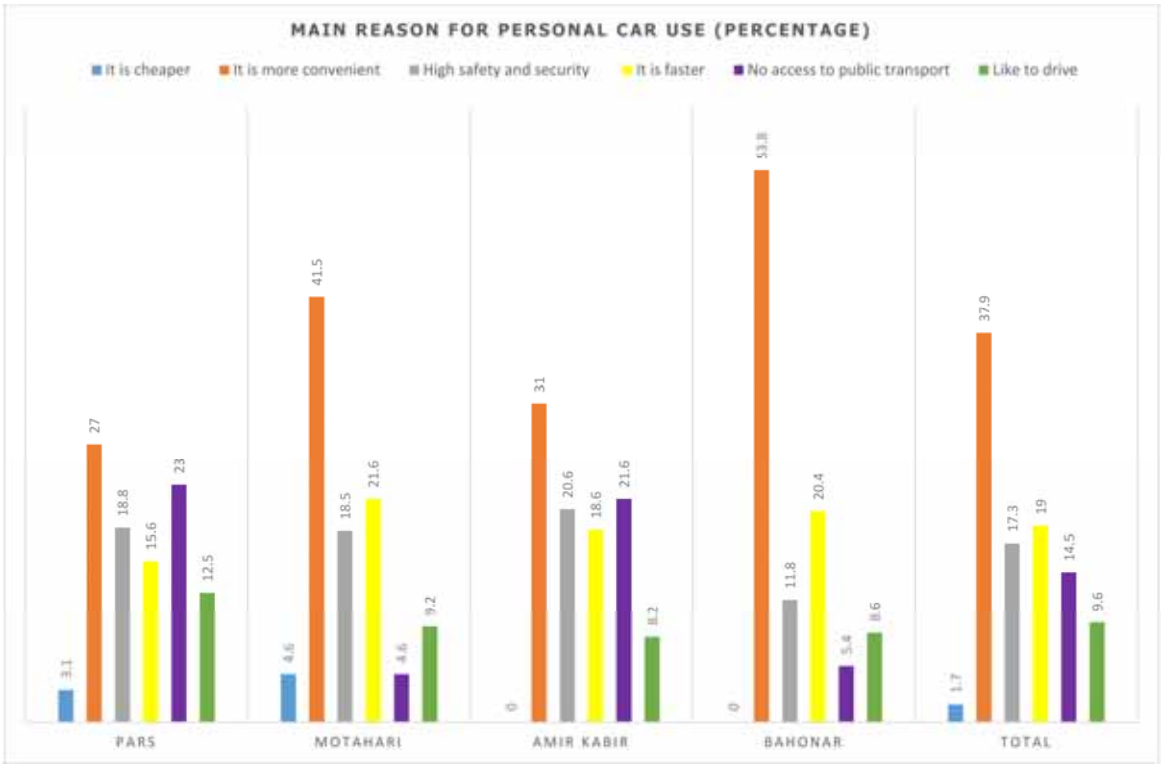

Fig. 2 Main reason for personal car use in studied areas

Fig. 3 indicates undeniable dominance of financial motives for using public transportation. The option "it is cheaper" makes 33.8 percent of the whole responses ranging from 20.4 percent in Amir Kabir and 44.6 percent in Bahonar. "Safety and security" is the second reason for public transport use, which encourages 23.7 percent of the interviewees. 12 percent of the people use public transportation not because of its capabilities but because personal vehicle is not available to them. The only declared reason that is directly related to public transportation specification is "it is faster" that can motivate as few as 10.8 percent.

Question 3 reveals intriguing information about the role of convenience in encouraging people to use public transit. According to Fig. 4, less than half of Kermani residents declare that they do not use bus and taxis,

which are the main public transport means, only because of lack of convenience. This amount (48.15 percent) is more or less seen in all four neighborhoods with little deviation ranging from 41.3 to 50.7 percent.
This finding completes the result of Question 2 which already showed that more than one third of respondents use automobiles because they believe it is more convenient than public transportation. In fact 60 persons have declared that car is more convenient and public transport is not. This makes 45% of those who find personal car easier to use and 38% of those who believe using public transport is not easy.

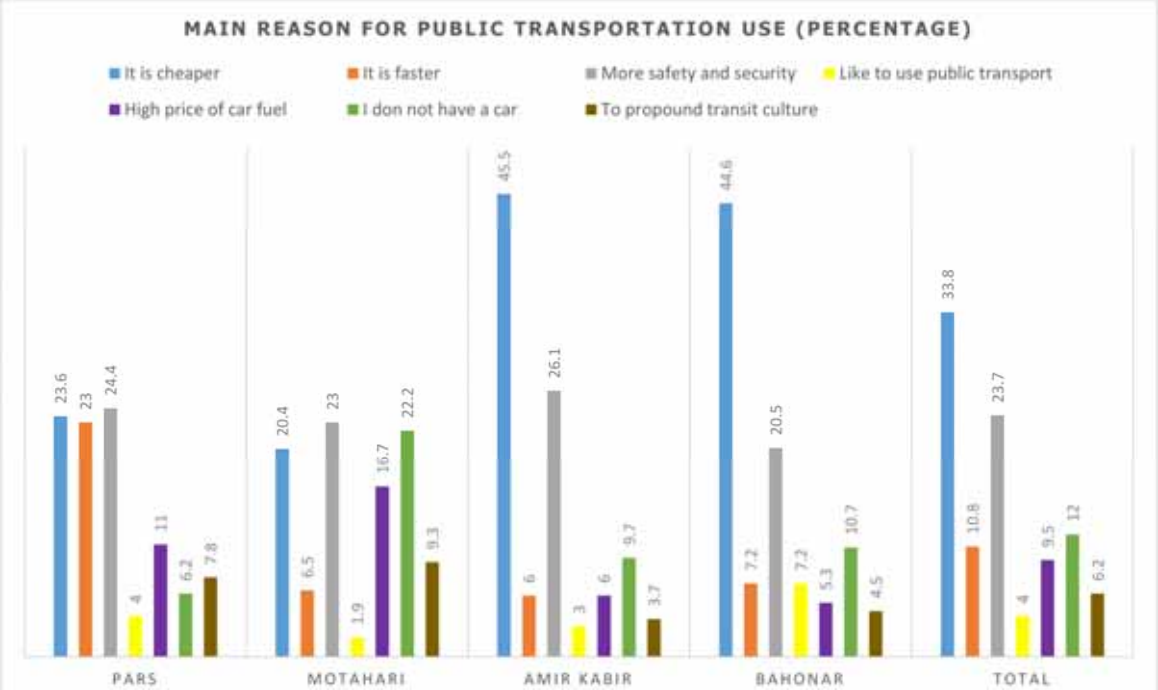

Fig. 3 Main reason for public transit use in studied areas

The second and third deterrents to public transportation use are related to accessibility. “Long distance between the stations” and “no or little access to public transport” cause a sum of 41.3 percent not to use buses and taxis. The importance of social problems is less than physical variables (less than ten percent).
The individual/socioeconomic issues play a major role in defining the bike trip characteristics in Kerman according to the outcomes of Question 4 which is illustrated in Fig. 5. More than one third (35.8 percent) of the respondents do not have any special interest in using bike for non-commute travels and 32 percent find social problems such as other people look and opinions a barrier to their bike use.
The responses for these two options are almost equal in the four areas. Lack of facilities and infrastructure as well as financial problems play a minor role in limiting bike use. “Lack of facilities or routes” has been chosen less in the two neighborhoods that have a central urban structure including a neighborhood center with shops within a short distance of the houses.
It does not appear that bike use is an obstacle for the residents.
Unlike biking, pedestrian trips are limited by a combination of physical and personal factors, while social issues are less effective. As seen in Fig. 6. 25.7 percent have said that “far-away destinations from the house” dissuades them from walking. 24 percent do not show any interest to walking; and again 22.3 percent prefer to walk in more suitable environments. “Lack of safety and security” and “social problems” have little influence on walking activity in the study areas.

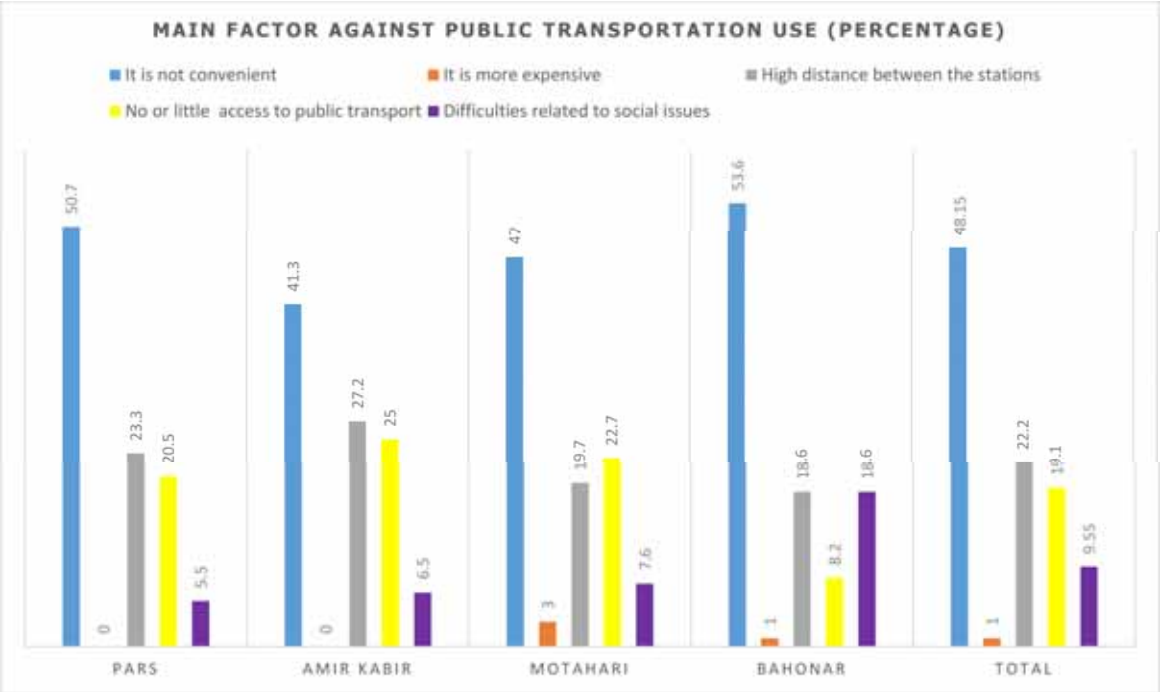

Fig. 4 Main factor against public transit use in studied areas

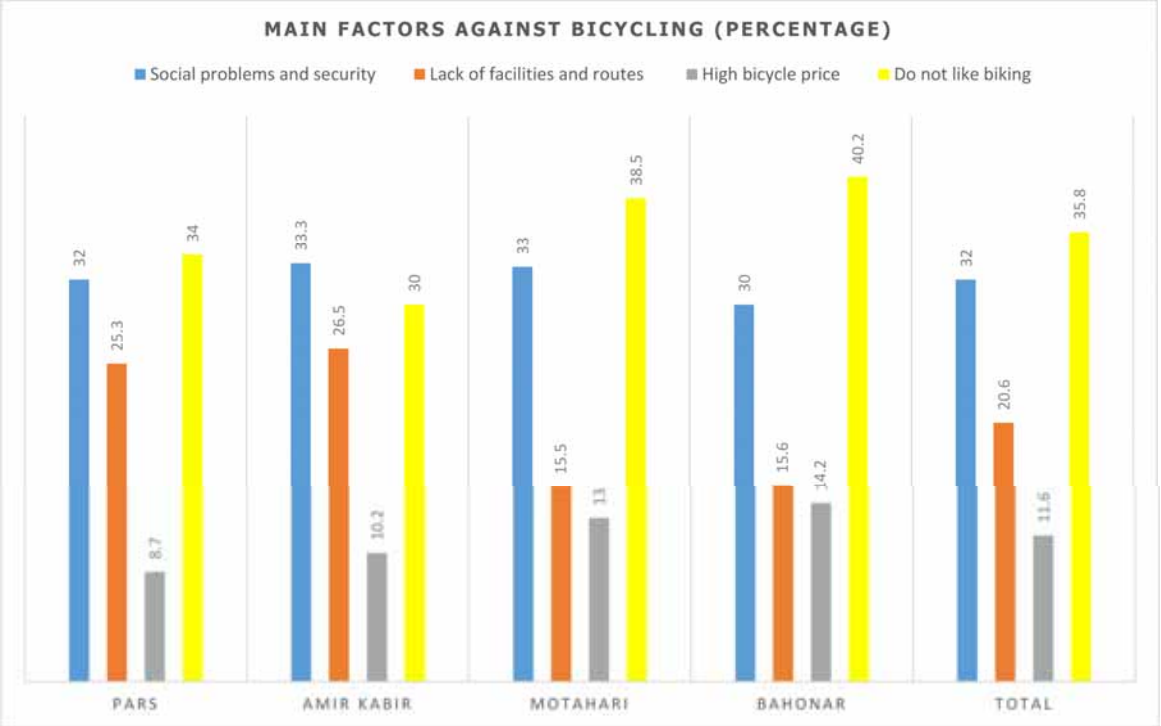

Fig. 5 Main factor against bicycling in studied areas

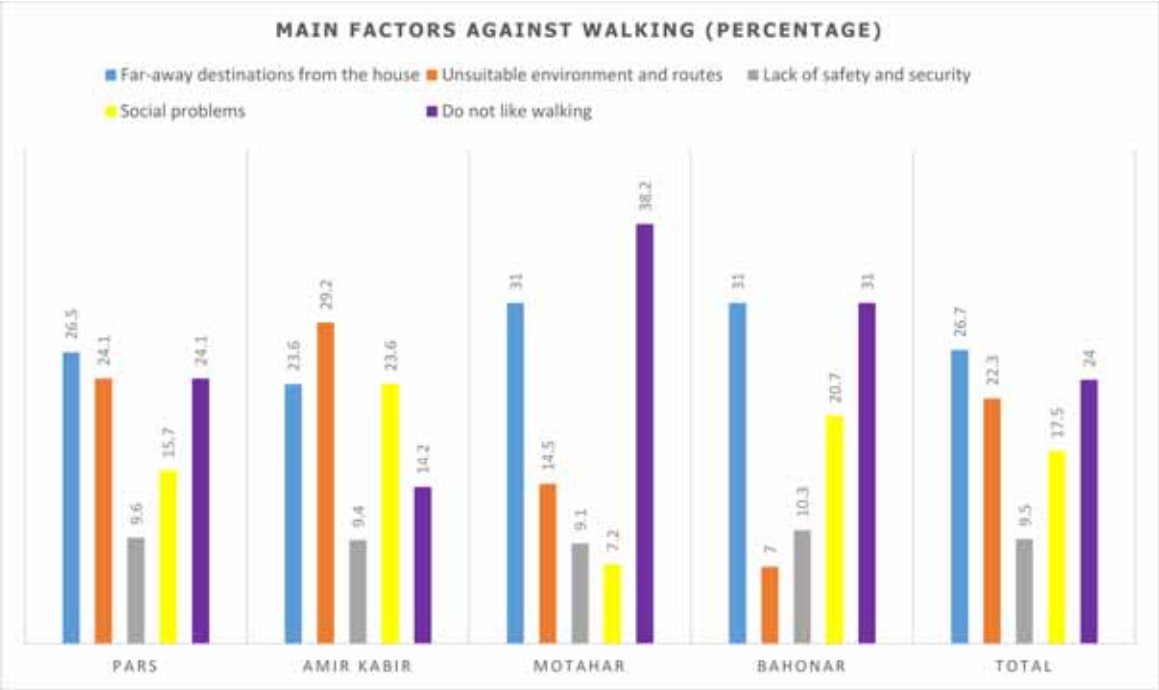

Fig. 6 Main factor against walking in studied areas

4.2 STATISTICAL ANALYSIS

The results of the chi-square association test are shown in Tab.3. According to the analysis, car use is significantly associated with all four socio-demographic explanatory variables (gender, household size, age, and household car ownership). The detailed results including frequencies related to all categories, standardized residuals, and p-values are illustrated in Tab. 4 to 8.

Personal car use: All the four socio-demographic variables very significantly explain reasons for car use (Tab. 3). The reasons given by males and females are meaningfully different. Safety and security is significantly more important for women compared to men, while men use personal car because they find it more convenient, faster, and cheaper. Household size has also significant influences.

Low price of driving has been only stated as a reason by small families. Mid-sized families drive car because it is more safe-secure and faster, or they like driving, or they have little access to public transport (Tab. 4).

Public transport use: All of the four socio-demographic variables significantly affect decisions for or against public transport use. The exception is the role household car ownership in discouraging people from public transport use (Tab. 3). In other words, to own a car necessarily does not discourage people to use public transport. Males use public transport because of its low cost or the high price of car fuel, while women do it for not having a car, personal interest, speed, and safety/security.

Again here we see than the role of safety/security concerns is much more effective for women than men. Mid-sized families (4 and 5 members) have chosen options related to public transport use. Residents of 29 years of age or less use public transport by far more than others because of its lower price and higher safety and security. The other reasons for PT use are not having a car, high speed, promotion of PT culture, and personal interest.

		Gender			Hosehold Size			Age			Household Car Ownership		
		Value	df	Asymp. Sig.	Value	df	Asymp. Sig.	Value	df	Asymp. Sig.	Value	df	Asymp. Sig.
MAIN REASON FOR CAR USE	Pearson Chi-Square	28,851	6	<,0001	38,936	12	<,0001	148,153	12	<,0001	36,572	18	,006
	Likelihood Ratio	31,518	6	<,0001	41,921	12	<,0001	159,451	12	<,0001	44,171	18	,001
	N of Valid Cases	352			352			352			352		
MAIN REASON FOR PUBLIC TRANSIT USE	Pearson Chi-Square	18,215	7	,011	32,254	14	,004	109,178	14	<,0001	36,427	21	,020
	Likelihood Ratio	18,325	7	,011	32,162	14	,004	113,541	14	<,0001	39,295	21	,009
	N of Valid Cases	473			473			473			473		
MAIN FACTOR AGAINST PUBLIC TRANSIT USE	Pearson Chi-Square	27,363	5	<,0001	25,093	10	,005	115,235	10	<,0001	13,874	15	,535
	Likelihood Ratio	29,355	5	<,0001	25,524	10	,004	112,653	10	<,0001	16,176	15	,370
	N of Valid Cases	328			328			328			328		
MAIN FACTOR AGAINST BICYCLE USE	Pearson Chi-Square	156,086	4	<,0001	18,149	8	,020	39,767	8	<,0001	29,830	12	,003
	Likelihood Ratio	168,534	4	<,0001	16,686	8	,034	39,610	8	<,0001	31,666	12	,002
	N of Valid Cases	586			586			586			586		
MAIN FACTOR AGAINST WALKING	Pearson Chi-Square	65,429	5	<,0001	10,803	10	,373	29,566	10	,001	12,104	15	,671
	Likelihood Ratio	70,925	5	<,0001	10,899	10	,365	30,481	10	,001	13,726	15	,546
	N of Valid Cases	284			284			284			284		

Tab.3 Chi-Square Test Results

HOUSEHOLD CAR OWNERSHIP	Total	61		51		34		67		133		6		352
	3 & more	6	-0,8	9	0,8	4	-0,3	10	0,3	23	1,2	0	-0,9	52
	2	22	0,3	18	0,2	18	1,9	31	1,7	50	0,7	0	-1,4	139
	1	33	0,4	23	-0,5	12	-1,2	26	-1,3	60	-0,9	6	1,7	160
	0	0	-1,2	1	-0,1	0	-0,9	0	-1,2	0	-1,7	0	-0,4	1
AGE	Total	61		51		34		67		133		6		352
	Old	4	-0,2	2	-0,9	0	-1,6	9	1,8	16	2	0	-0,7	31
	Middle Age	37	2,3	47	5,6	23	2,4	41	2,5	60	0,7	4	1	212
	Young	20	-2	2	-4,7	11	-1,5	17	-3	57	-1,4	2	-0,6	109
HOUSEHOLD SIZE	Total	61		51		34		67		133		6		352
	Large Family	7	-0,3	1	-2,2	1	-1,6	5	-1,2	14	-0,8	0	-0,9	28
	Mid-Sized Family	35	-0,3	39	1,5	24	0,8	44	0,6	74	-0,6	0	-1,9	226
	Small Family	19	0,6	11	-0,8	9	-0,1	18	-0,1	45	1,5	6	3,4	108
GENDER	Total	61		51		34		67		133		6		352
	Male	25	-1,2	29	0,5	17	-0,2	40	0,9	90	2,5	6	1,6	207
	Female	36	1,2	22	-0,5	17	0,2	27	-0,9	43	-2,6	0	-1,7	145
PROCAR		Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count
		Safty & Security		No Access To PT		Like To Drive		Faster		More Convenient		Cheaper		Total

Tab.4 Main reason for car use

Fuel price is a concern for mid-aged groups. Those who have a car are more likely to use PT than other car ownership groups. Men do not use public transport because they do not find it convenient, or there is little accessibility, or the distance between stations are long, while women do not use it because it is expensive or they have some social concerns (Tab.5 and 6).

Bicycling: All of the four socio-demographic variables significantly affect decisions concerning biking (Tab.3). The effects of lack of social security targets females and discourage them from biking. Men do not bike because of lack of bike facilities, its high price, or lack of interest. Young people may not bike because of social problems, high bike price, or personal interest (Tab. 7).

HOUSEHOLD CAR OWNERSHIP	Total	165		60		52		45		30		19		102		473
	3 & more	25	0,6	5	-1,1	6	-0,4	5	-0,4	5	0,5	1	-1	10	-1	57
	2	42	-1,9	15	-1,2	21	0,8	20	1,2	10	-0,1	7	0,2	32	-0,4	147
	1	90	0,7	36	1	23	-0,6	20	-0,6	15	0	11	0,5	57	0,8	252
	0	8	2,2	4	2,3	2	0,8	0	-1	0	-0,8	0	-0,7	3	0,5	17
AGE	Total	165		60		52		45		30		19		102		473
	Old	8	-1,2	2	-1,2	5	0,6	3	-0,2	3	0,5	2	0,5	3	-1,6	26
	Middle Age	32	-4,4	20	-1	19	-0,5	26	1,7	8	-1,3	6	-0,7	32	-1,6	143
	Young	125	4,4	38	1,3	28	0,3	16	-1,5	19	0,9	11	0,4	67	2	304
HOUSEHOLD SIZE	Total	165		60		52		45		30		19		102		473
	Large Family	36	3,2	9	0,5	7	0,1	3	-1,2	2	-0,9	2	-0,3	18	1,3	78
	Mid-Sized Family	99	0	33	-0,5	32	0,2	26	-0,2	21	0,7	10	-0,4	61	0	282
	Small Family	30	-2,2	18	0,4	13	-0,3	16	1,1	7	-0,4	7	0,8	23	-0,9	114
GENDER	Total	165		60		52		45		30		19		102		473
	Male	84	-0,2	28	-0,6	24	-0,6	27	0,7	15	-0,2	8	-0,6	38	-2,1	416
	Female	81	0,2	32	0,6	28	0,6	18	-0,8	15	0,2	11	0,6	64	2,1	384
PROPULIC		Count	Std. Residual	Count	Std. Residual	Count	Std. Residual	Count	Std. Residual	Count	Std. Residual	Count	Std. Residual	Count	Std. Residual	Count
		Cheaper		Don't Have Car		Faster		High Fuel Price		Propound Transit Culture		Liket to Use PT		Safty & Security		Total

Tab.5 Main reason for public transport use

Walking: Only age and gender affect walking activity, while household size and household car ownership stay neutral (Tab. 2). Men do not walk because of unsuitable urban environment, far away destinations, and personal interest, while women's problems is social problems and lack of security. Mid-aged residents concern against walking is social problems and lack of security. Younger generation do not walk because of personal interests (Tab. 8).

HOUSEHOLD CAR OWNERSHIP	Total	158		61		73		3		33		328
	3 & more	24	0,6	4	-1,5	10	0,1	1	0,9	5	0,3	44
	2	55	0,2	27	1,4	29	0,9	1	0	12	0,2	124
	1	78	-0,2	29	-0,3	34	-0,5	1	-0,4	15	-0,4	157
	0	1	-1,4	1	-0,3	0	-1,3	0	-0,3	1	0,3	3
AGE	Total	158		61		73		3		33		328
	Old	21	2,7	1	-1,6	8	1,1	0	-0,5	8	3,6	38
	Middle Age	75	1,2	45	3,9	47	3,1	2	0,7	17	0,9	186
	Young	62	-2,1	15	-2,9	18	-3,2	1	-0,4	8	-2,2	104
HOUSEHOLD SIZE	Total	158		61		73		3		33		328
	Large Family	14	-1,4	5	-1	5	-1,4	0	-0,6	2	-1,1	26
	Mid-Sized Family	87	-0,8	36	-0,1	52	1,3	2	0,2	17	-0,6	194
	Small Family	57	2,1	20	0,8	16	-0,9	1	0,2	14	1,7	108
GENDER	Total	158		61		73		3		33		328
	Male	91	1	44	2,2	41	0.5	0	-1,2	8	-2,2	184
	Female	67	-1	17	-2,3	32	-0,5	3	1,3	25	2,3	144
CONPUBLIC		Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count
		Not Convenient		Not Access To Pt		High Distance Between Stations		More Expensive		Difficulties Of Social Issues		Total

Tab. 6 Main factor against public transit use

HOUSEHOLD CAR OWNERSHIP	Total	190		121		68		207		586
	3 & more	19	-1,3	14	-0,5	9	0	24	-0,7	66
	2	60	-0,5	51	1,6	20	-0,6	57	-1,6	188
	1	103	0,7	56	-0,7	38	0,6	120	1,5	317
	0	8	1,8	0	-1,7	1	-0,4	6	0,6	15
AGE	Total	190		121		68		207		586
	Old	9	-1,3	11	0,7	1	-1,8	29	3,5	50
	Middle Age	83	0,5	59	1,3	16	-2,3	75	-1,2	330
	Young	98	0,1	51	-1,4	51	2,7	103	-0,3	303
HOUSEHOLD SIZE	Total	190		121		68		207		586
	Large Family	18	-1,3	13	-0,7	17	2,8	28	0,3	76
	Mid-Sized Family	115	0,1	66	-0,8	32	-1,4	131	0,6	344
	Small Family	57	0,7	42	1,6	19	0,1	48	-1,1	166
GENDER	Total	190		121		68		207		586
	Male	27	-7,2	81	2,3	53	3,0	113	0,5	274
	Female	163	7,5	40	-2,4	15	-3,1	94	-0,5	312
CONBIKING		Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count
		Social Problems & Security		Lack Of Facilities & Routes		High Price Of Bicycle		Don't Like To Biking		Total

Tab.7 Main factor against bicycle use

HOUSEHOLD CAR OWNERSHIP	Total	62		48		25		74		75		284
	3 & more	9	0,2	2	-1,7	4	0,4	8	-0,6	14	1,3	37
	2	20	-0,2	14	-0,6	5	-1,2	28	0,6	23	-0,5	90
	1	32	0,1	31	1,4	16	0,9	36	-0,2	37	-0,1	152
	0	1	-0,3	1	-0,1	0	-0,8	2	0,3	1	-0,5	5
AGE	Total	62		48		25		74		75		284
	Old	3	-0,7	3	-0,3	3	0,9	2	-1,5	3	-1,1	14
	Middle Age	30	0,9	30	2,3	14	1,1	36	1	20	-2	130
	Young	29	-0,5	15	-1,9	8	-1,3	36	-0,3	52	2,2	140
HOUSEHOLD SIZE	Total	62		48		25		74		75		284
	Large Family	6	-0,7	3	-1,3	3	-0,1	9	-0,2	10	0,1	31
	Mid-Sized Family	32	-0,8	29	0	14	-0,3	41	-0,5	43	-0,3	159
	Small Family	24	1,7	16	0,8	8	0,5	24	0,9	22	0,3	94
GENDER	Total	62		48		25		74		75		284
	Male	43	1,9	5	-4	10	-0,8	49	1,7	56	2,7	163
	Female	19	-2	43	4,2	15	0,9	25	-1,8	19	-2,8	131
CONWALKING		Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count	Std.Residual	Count
		Unsuitable Environment & Routes		Social Problems		Lack Of Saftey & Security		Far Destinations From House		Don't Like To Walk		Total

Tab.8 main factor against walking.

5 DISCUSSION

The findings of this research gives an understanding of how the Iranian and other Middle Eastern decision makers and planners can stimulate sustainable transportation and change the arrangement of modal split. Also the dissimilarities of the determinants of mobility choices in Iran are compared with the findings of other countries, majority of which come from western countries.

5.1 MODAL SHIFT FROM PERSONAL CAR TO PUBLIC AND NON-MOTORIZED TRANSPORT MODES

It would be useful to consider the survey results of personal car and public transport together. There is a coincidence between reasons behind car use and the deterrents to public transportation use. This common point is convenience. A considerable number of people drive car because it is more convenient than other modes, while almost half of them fled buses and taxis because of their inconvenience. This provides with an opportunity for a modal shift from car to public transport especially traditional buses that offer little comfort. With keeping constant the public transit fares and enhancing consumer quality, it would be possible to attract car drivers particularly when accessibility to public transport systems is promoted. That becomes visible when we take into account that one third of people withdraw from public transit only because of lack of accessibility. People tend to use buses because of its low fares, safety and security. When convenience and accessibility to public transit systems is increased, adding a push factor of increasing costs of car use can be a kick off. During the past 7 years car fuel has been increased dramatically. The authorities claimed that this will lead to less car use. Nevertheless very little (if not zero) impact were observed, because the push was added to the system without any pull factor such as convenience/comfort.

Here, taking stand-alone policies and neglecting diversity has led to such a failure. It is believed that multi-dimensional public policies covering a wide range of consumers can lead to better results in changing mobility behaviors. Different socio-demographic groups may have dissimilar behaviors. Therefore these differences should be accounted for in defining policies and targeting desirable changes. Section 5.3 gives more related details in case of the city of Kerman. Also it is noteworthy that the capabilities of public policies are only “potential” and unobserved and hidden factors can always have unwanted effects on the results.

The most powerful deterrents to biking (at least in Middle Eastern cities exemplified by Kerman) are individual and social concerns. 67.8 percent of the respondents do not bike because of lifestyles and perceptions.

For shifting from car use to biking, the most necessary plan for the future of the country or the whole Middle East can be increasing awareness about bike use as a transportation mode. Informative TV/radio programs and newspaper articles would have an essential role in persuading people to bike as an economic transport mode. Of course in warmer areas, hot climate can be a limiting factor, which should be thought of.

Although there are studies about overcoming cold climate with the purpose of easing commute biking (like Spencer et al. 2013), but in case of warm-arid weather, there is a long road to analyze the problem and identify the solutions. Attractive and accessible destinations together with nearby local centers and jobs can also help to change the perceptions and lifestyles that oppose biking.

Environmental solutions stand in the second place for promoting bicycling in Iran. Bike lanes and routes can attract one fifth of people to bike as commute or non-commute travel mode. Tracks and lanes are not yet developed in Kerman, so making use of the experiences in bike-sharing systems in eastern Tehran can be a strategic move in bicycle planning of mid-large cities such as Kerman.

Unlike bicycle, the largest obstacles against walking are physical and environmental. Lack of accessibility to destinations, leisure, and employment as well as unsuitable environment and routes prevent approximately half of people from walking. The second group of phenomena is social concerns and human perceptions about

safety and security that can encourage one third of city dwellers. Anyhow, the personal perceptions play an effective role in defining the characteristics of slow travels including walking and biking. One person out of four is not willing to walk, while this figure is more than 35 percent for biking.

5.2 DISSIMILARITIES BETWEEN MODE CHOICE DETERMINANTS IN IRAN AND WESTERN COUNTRIES

The findings of this study strongly agree with the western literature that emphasize on the importance of the socio-economic traits and personal perceptions (such as Goldsmith, 1992; Steg et al. 2001; Johansson et al. 2006; The Gilmore Research Group, 2007). The observation results are not in line with a large body of North American studies that find built environment characteristics more important than self-selections and personal preferences (for example: Bhat & Guo, 2007).

However two important points must not be neglected. Firstly, the balance of socio-economic and built environment factors are different in defining the decisions of different modes. This difference catches eye in walking and biking. While social deterrents are very strong in discouraging people especially women from biking, the main obstacles of walking are more physical rather than subjective. It seems that what other people think matters to others, and this impact is shown in their modal decisions about bicycling.

The solutions to overcome this barrier needs more in-depth studies. On the other side, the large share of responses regarding the strong role of lack of physical facilities and accessibility in weakening walking activities provides the opportunity for local governments and planning organizations to change the modal split in a shorter time. The above is based on the belief that providing physical amenities such as facilitated walkways, suitable lighting, designing neighborhood centers, shortening the walking distances, and as a result making walking easier and more pleasant needs less time and energy than changing the socio-economic and cultural attributes of a Middle Eastern society.

The size and scale of the necessary changes in case of physical facilities that can be done in the neighborhood scale versus the nation-wide social and economic conditions make infrastructural improvements easier for municipalities and planners to shift the modal split to more sustainable ways of transport.

Secondly, although the socio-economic factors are obviously more effective in the Iranian society, but the physical infrastructure and urban form including accessibility are also influential, although this effect is weaker particularly in the neighborhood scale. The importance of physical facilities is more in case of walking, according to the findings of this study.

5.3 MODAL SHIFT POLICIES TARGETING CONSUMER GROUPS

The findings of this study may be employed by policy makers to focus on transport mode shift of special groups. Tab. 9.

This summary shows which group of people are more likely to be affected by changes that originate from policies. The cells related to non-significant association have been left blank.

According to this table, change in safety and security of transport systems and urban environment will affect modal decisions of young and middle-aged women who come from mi-sized families and have a car. This influence will happen about all four modes investigated.

If availability of public transport is increased, mid-aged men coming from 4-5-member families will be encouraged to use PT more than others. If promotional programs and advertisements can be successfully implemented to encourage people to walk more, the largest group of people who are capable of changing behavior are young males who come from mid-sized families and have one car. Policies that can potentially limit car speed will trigger middle-aged males of mid-sized families with 1 or 2 cars.

		GENDER	HOSEHOLD SIZE	AGE	HOUSEHOLD CAR OWNERSHIP
PROCAR	Change in safety & security	Female	Mid-sized family	Middle age	1
	Change in access to public transport	Male	Mid-sized family	Middle age	1
	Change in personal interest to driving	_	Mid-sized family	Middle age	1 or 2
	Change in speed	Male	Mid-sized family	Middle age	1 or 2
	Change in convenience	Male	Mid-sized family	Middle age	1 or 2
	Change in price	Male	Small family	Middle age	1
PROPUBLIC	Change in safety and security	Female	Mid-sized family	Young	1
	Change in car ownership rate	Female	Mid-sized family	Young	1
	Change in personal interest to PT	Female	Mid-sized family	Young	1
	Change in speed	Female	Mid-sized family	Young	1
	Change in PT culture awareness	_	Mid-sized family	Young	1
	Change in fuel price	Male	Mid-sized family	Middle age	1 or 2
	Change in PT use price (tickets)	_	Mid-sized family	Young	1
CONPUBLIC	Change in convenient	Male	Mid-sized family	Middle age	_
	Change in access to PT	Male	Mid-sized family	Middle age	_
	Change in distance between stations	Male	Mid-sized family	Middle age	_
	Change in price	Female	Mid-sized family	Middle age	_
	Change in social issues difficulties	Female	Mid-sized family	Middle age	_
CONBIKING	Change in social problems & security	Female	Mid-sized family	Young	1
	Change in biking facilities	Male	Mid-sized family	Middle age & Young	1 or 2
	Change in fuel price	Male	Mid-sized family	Young	1
	Change in personal interest to biking	Male	Mid-sized family	Young	1
CONWALKING	Change in suitability of urban environment	Male	_	Middle age & Young	_
	Change in social problems	Female	_	Middle age	_
	Change in safety& security	Female	_	Middle age	_
	Change in distances to destinations (walkability)	Male	_	Middle age & Young	_
	Change in personal interest to walking	Male	_	Young	_

Tab.9 The most likely socio-demographic group affected by change in decision motives

A point discussed in previous sections is that public policies will be more effective when they include a diversity of approaches. An example is that promoting high quality built environment with walkable, safe, and secure quarters can persuade two groups of people to walk: young and middle-aged men and middle-aged women. Similarly, policies for providing higher quality, accessibility, and at the same time less prices are most likely to influence both middle-aged men and women.

The findings presented in this table can be interpreted the other way. If transport plans seek to affect mobility behaviors of a certain demographic group, Tab. 9 suggests focusing on specific transport and environmental

characteristics. For instance, to decrease the car use rate of women, the best strategy is to increase safety and security. Similarly, to increase walking in young males, the most effective way is to influence their perceptions about walking.

6 CONCLUSION

This article indicates the most influential determinants of modal choices in Kerman as an example of the Middle Eastern cities. The outcome is presented to planners and decision makers who seek to change the arrangement of their community's modal split and reduce car dependency. Another type of audience are the researchers who would like to quantitatively model the major variables of modal choice. The paper gives a pre-estimation of the effectiveness of the main determinants that should be measured. Since the Middle Eastern cities are less studied compared with the western counterparts, the findings of this paper can outline some dissimilarities that are often neglected. The main outcome of the study is making an emphasis on the importance of socio-economic, cultural, and preferences of the end-users in defining modal split. Although the findings somewhat oppose the mainstream of western [specially North American] studies that gives an extra value to the built environment, but some aspects of urban form such as accessibility to local centers and public transport remain of notable effectiveness. The succession of the importance of the determinants that this paper suggests of the Middle Easters represented by Kerman is as follows:

- Socio-economic and cultural factors;
- Built environment;
- Personal and household preferences and lifestyles;
- Residential self-selection.

As marginal outcomes, this paper shows how an increase in the combination of convenience/comfort and accessibility of public transportation systems can encourage car drivers to shift to public transit use. Social issues are the most powerful barriers to biking, while lack of facilities and infrastructures are the strongest obstacles to overcome for the purpose of stimulating walking.

Finally, the differences among different consumer groups in Kerman were studied. The outcomes show that socio-demographic determinants have effective impacts on mobility choices. Four most influential variables that were observed in this study are gender, household size, age, and household car ownership. The paper suggests improving the diversity of public policy approaches to get remaining modal shift.

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IMAGE SOURCES

Figure in front page (Southern Karegar st. in central Tehran): Houshmand E. Masoumi.

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RESIDENTIAL LOCATION PREFERENCES

THE SIGNIFICANCE OF SOCIO-CULTURAL AND RELIGIOUS ATTRIBUTES

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ABSTRACT

The objective of this paper is to explore residential location preferences and how they are related to travel behavior.
The literature focuses on the preferences in relation to physical and demographic aspects, such as land uses, facilities, transportation facilities, transportation services, car ownership, income, household size and travel accessibility.
However, this study suggests social and cultural issue such as racial diversity which is literally to be a significance context. The case study reported here is based on Iskandar Malaysia's development region.
Reliability Analysis and Factor Analysis are applied to determine that religious and culture are influential in terms of residential location preferences. These findings add a different perspective on travel behavior studies, which are heavily dominated by researches from Western Europe, North America and Australasia.
It is suggested that transport researchers need to reject universal conclusions and be clearer about the contexts in which their findings most applied and in multi-cultural scenarios to consider cultural and religious factors more extensively.

KEYWORDS:
Residential Location Preferences; Travel Behavior; Religious and Cultural Factor

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择居偏好

社会文化与宗教影响

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摘要

本文旨在探讨择居偏好及其与出行方式之间的关系。学界专注与物质环境及人口统计学相关的偏好，譬如土地使用、设施、交通设施、交通服务、汽车拥有状况、收入、家庭规模以及出行的便利程度。然而，本研究表明，种族多样性等社会与文化因素也是非常重要的背景环境。文中案例以马来西亚依斯干达发展区为依据，综合采用可靠性分析以及因子分析来确定宗教与文化因素对择居偏好的影响。出行方式研究一直为西欧、北美和大洋洲所主导，文本的发现为该研究开拓了新的视角。本文建议，交通研究人员应该拒斥普遍性的结论，更加明确成果适用的环境，并在多元文化环境下，更广泛地考虑文化与宗教因素。

关键词
择居偏好，出行习惯，宗教因素，建成环境

1 INTRODUCTION

Residential location preferences studies are a focus of attempts to change the travel behavior, to shorten trips by private vehicles and potentially changing mode of transportation. Recognizing the potential of people's preferences, land use and transportation policy will be driven into the new perspective in which policy makers will need to understand the people's needs before proposing any policies. Susilo et al., (2012) explained that in order to propose solution for transportation-related matters, understanding on people's preferences should not be framed solely with physical characteristics, but the inclusion of social aspects will add significance effects on people decision.

During the past two decades, the literature has shown that urban form characteristics, such as density, settlement size, land-use mix, accessibility and local streets lay out are cumulatively affecting attitudes towards residential location preferences and travel behavior alongside socio-demographic characteristics, housing location and job location (e.g. Aditjandra, 2012). However, many researchers failed to include the socio-cultural and religious characteristics as potential factors that may influence people's decision in residential location preferences and travel behavior.

Furthermore, research by Susilo and Dijst (2009) and Susilo and behavior Waygood (2012) explained that although land use characteristics have some significance in explaining travel behavior, individual's attitude are often more strongly associated with travel behavior than land use policies or others physical oriented policies. Nevertheless, despite identifying these links, there have not been many studies which have developed a comprehensive framework to address connections between this built environment characteristics and travel behavior, taking into account of the fact that individuals may self-select a residential location with specific neighborhood characteristics. Schenier (2010) in his research about social inequalities in travel behavior has highlighted that findings on the social needs on trip distance are very limited. Therefore, this study provides a comprehensive framework to enhance the relationships between residential location preferences and its relation to travel behavior.

2 LITERATURE REVIEW

There are many studies that focus on physical characteristics in residential location preferences and travel behavior. Very less consideration was given to social aspects and therefore many researches have revisited the issues of residential location preferences. The argument by Handy et al., (2005) is that understanding on the built environment should be expanded to gather social needs and preferences as this has to be given fair consideration in order to change travel behavior. This section briefly summarizes some of the relevant literature on built environment and travel behavior as well as its relation to residential location preferences. For more comprehensive reviews, see Handy et al. (2005), Van Acker and Witlox (2005), Susilo et al., (2012) and Aditjandra (2012).

2.1 TRENDS IN TRANSPORTATION SOLUTION

Implementation of solutions based on urban form and structure are usually the focus of policy to solve transportation problems (Abrahamse et al., 2009). Alongside this, in condition of fast urban growth scenarios, supply-side initiative is needed. Building new infrastructures are common in many countries in addressing transportation solution, especially in developing country like Malaysia. Handy (2005), however, questioned on impact, where by, new transportation investments have on development patterns and eventually, effect on travel patterns though. Since the early of 1990s, such studies have appeared with increasing frequency. In response of the studies, many researchers began to examine the effect of specific

characteristics of the built environment on travel behavior at a disaggregate level as an effort to test the hypothesis that shape the built environment that can be used to reduce automobile travel (Handy, 2005).
Overtime, however, many countries are facing uncertainty, where past trends not a reliable guide to better future. Many sections of road heavily congested for most of the time and eventually, raise concerns on environmental impacts from traffic, way to reduce usage of cars and increase public transportation. The concern starts to shift on the ways in which people organize their lives, especially where to live (Mahmassani, 2002). However, this does not provide enough evidence to understand people travel behavior (Susilo, et al., 2012). In the past, there appeared to be a mentality of 'transport is here to serve' (Lyon, 2004). In more recent times, the custodian of the transport system is being forced into recognizing that transport does not merely serve society, instead it shapes society, as in turn society shapes transport.

2.2 RESIDENTIAL LOCATION AND TRAVEL BEHAVIOR

Over the past decade, there has been growing interest in integrating land use planning and transportation. Based on Hensher (2001), land use does not only influence transportation outcome, but the transportation investments also influences the land use decision, potentially undermining the benefits of capacity expansion aimed at relieving urban congestion problems. Most of the findings and literature are centered on the topic of residential self-selection, where households and individuals locate themselves to support their travel preferences.
Changes in travel behavior may derive from the influence in land use, especially to encourage people to walk or cycling to their destinations. In respond to that, Donaghy et al., (2005) have examined the motives and needs that drive decision have been made, which lead to response behavior over space and time. In comparative studies in Europe and North America, difference in travel and mobility may take the form of income, network densities, transport technologies and social trends. According to Stern and Richardson (2005), there are issues concerning long-term versus short-term decision making, where by socio-economic determinants and cultural differences are among the issues concerned.
Cram (2005) has further confirmed in his research on residential location and work travel. The researcher explained that one of the reasons for the increase in distance travelled is the growth of long-distance work journeys. This leads people to choose the housing location based on the accessibility- basis to a potential workplace rather than to one particular workplace. Besides that, Curtis (1996) since then explained that the value of housing is a factor which results in people "trading-off" the cost of living nearer to workplace against the cost of a longer work journey. Table 1 below explains different perspective on land use and transport as follows:

PERSPECTIVES	LAND USE AND TRANSPORTATION
Human activities and purposes	-Human activities and purposes are the ultimate drivers for land use, transport and their planning
Costs and benefits	- Destination activities (land uses) are associated with benefits - Travel is primarily associated with costs
Network	- The separation and distribution of people, activities and land uses gives rise to need for travel - Land uses are represented by zones - Transport network represented by nodes and links

Land value, location and accessibility	- Land uses influenced by location and land value - Transport creates a web of accessibility that stimulates and supports value of land and location
Infrastructure and land area	- Transport seen as 'just another land use' - Transport land uses connect up contiguously and connect all other land uses
The professional dimension	- Land use planning and transport planning are distinct professions - These may be integrated, fail to connect or be in conflict
The policy dimension	- Overall objectives of land use planning and transport planning are often similar with differences in detail or emphasis - Land use planning and transport planning policies may be disparate or integrated

Tab.1 Perspective on Land Use and Transportation

2.3 CHOICES OF RESIDENTIAL LOCATION INFLUENCES TRAVEL BEHAVIOR

The choice of a residential location is actually a cluster of related choices, including the decision to move from existing residence, the choice of housing tenure (rental or owned), neighborhood and housing unit. According to Hensher (2001), households with higher incomes, with children or with two workers, for example, will demonstrate different consumption preferences for housing and location than households of differing income and life cycle characteristics. This was further explained by Susilo et al., (2012) that it is very difficult to make comparison because the local context plays significant role and it is so critical.

Curtis (1996) explained that accessibility to the workplace is equally important with accessibility to other destinations, but in reasons for eventual choice of area accessibility to the workplace was less important. According to Scheiner (2010), the importance of access to the workplace is used as an indicator of location preferences, while in the maintenance activity model, the importance of proximity to shopping for a location decision is used.

Job location is treated as substitution between market work, household work and leisure based on the relative productivity in market work over the life cycle. Hensher (2001) explains that occupations chosen are more generic and low wage, but where there are more accessible opportunities and lower risk of unemployment or maybe highly specialized and high wage but may involve longer commuters or offer limited mobility.

Urban form has an extremely complex relationship indicating that land use and design proposals will influence the price of travel, travel modes, mixed-use, pedestrian-friendly movement and types of housing especially to support low income workers (Boarnet & Crane (2001), Cervero (2002), Dieleman et al. (2002), Naees (2009) and Cao et al. (2009) suggests that activity participation, location of activities, choices of travel and route choice have a significance says on travel behavior, regardless of any self-selection of residents to particular types of neighborhoods.

Mokhtarian and Cao (2008) explained on individual characteristics, like social-demographic are more straightforward to measure, where these variables added to the explanation of variation in travel behavior by individual characteristics. The inclusion of purpose of trip to different places or destinations is well highlighted by Kenyon and Lyons (2003), where they explained that majority of journeys is made with no choice. Lee (2002) has seen before examined this before where travel habits are formed and indeed car dependence becomes more deeply embedded.

Car availability is measured as an independent variable in order to explain travel behavior (Acker & Witlox, 2010). Scheiner also measured the data as an ordinal variable, which can take on four values; no car in the household, car in the household not available to the respondent, car in the household partly available and car in the household available at any time. Owing a car enable people to move or travel, which distance does not a matter to consider choosing the residential location.

In the current debate of the choices of residential location preferences, many studies have made efforts to address the self-selection issues by accounting for preferences and attitudes with physical and activities within and outside the neighborhood. Therefore, this study is crucial to include the social aspects of people within the neighborhood. It is possible to explore the relationship or understand such as religious and culture aspects of residents in the neighborhood yet to establish the connection with choices of residential location preferences.

2.4 OVERVIEW OF PREVIOUS TRAVEL BEHAVIOR STUDIES

The majority of the previous researches as reported in journals have been gathered primary data through the implementation of questionnaire survey or a travel diary. However, the complexity of the relationship between the built environment and travel behavior means that there is still considerable gaps and disagreement to some extent, particularly on residential self-selection. Kitamura et. al (1997) discussed on attitudes and travel behavior in which attitude contributes to the explanatory power of regression models, where it explains the number of trips, transit trips and non-motorized trips and the share of auto, transit and non-motorized trips. Besides that, socio-economic factors and neighborhood descriptors of parking space available, distance to the nearest bus stop, and distance to nearest park.

Naess (2005) identified attitudes towards environmental issues are not significant. In his study, the density variable is positively correlated. Furthermore, in addition to socio-economic characteristics and attitudes, residential location also influences travel behavior. In separate study conducted in 2006, (Naess, 2006), the multiple regression analysis have been carried out to explain commuting distance identified the similar results, with again a significant influences of attitudes towards car use and no significant influence of attitudes on environmental issues. Meanwhile, the first study on residential self-selection included attitudes, which used Structural Equation Modelling, was carried out by Bagley and Mokhtarian (2002). Among the variables that have been used are built environmental variables, the attitudinal factors 'pro-high density', 'pro-driving' and 'pro-transit'.

Besides that, Handy et al. (2005) and Cao et al. (2007) as reported by Bohte (2009) as well, have used quasi-longitudinal data to compare neighborhood characteristics and travel behavior before and after shifted to the new area. Handy et al. (2005) explained vehicle miles driven, travel-attitudes, neighborhood characteristics and preferences and socio-demographic variables, suggests that differences between travel behavior of residents in traditional neighborhood and residents in suburban neighborhood are more a function of travel-related preferences than neighborhood characteristics. Another important research that has been referred widely was from Abrahamse et al. (2009). The research discussed on factors influencing car use for commuting and the intention to reduce it. The researchers examined whether environmentally relevant behavior would be better explained by variables reflecting self-interest or by moral considerations and whether perceived behavioral control would moderate the relation between personal norms as well as the intention to reduce car use.

There have been many researches on the determinant of travel behavior in general, and particularly, on trip distance, especially for the past several years (Scheiner, 2010). The directions of the research in travel behavior has been dramatically changed, where socio-demographic differential of travel has been challenged by lifestyle-oriented approaches that claim to be more appropriate in individualized, affluent societal contexts

where people have more options to choose in their travel behavior (Scheiner and Kasper 2003), (Scheiner, 2010). Table 2 below shows the summary of previous research on built environment and travel behavior studies, which is adopted from Curtis & Perkins (2006).

Authors, Year and Method	Travel Behavior Variables	Neighborhood Spatial Variables	Attitudinal variables	Results
Kitamura et al., (1997); *Multiple regression analysis*	Trip frequency, transit trip frequency, transit trip share, non-motorized trip frequency, car trip share, non-motorized trip share	Distance to nearest bus stop and grocery shop, mixed land use, high density, perceptions of neighborhood quality; good local transit, no reason to move, streets pleasant for walking	Pro-environment, pro-transit, suburbanite, automotive mobility, time pressure, urban villager, TCM, workaholic	Socio-economic and neighborhood characteristics – travel behavior, but attitudes had a stronger influence on travel behavior
Bagley & Mokhtarian (2002); *Structural Equation Modelling (SEM)*	Vehicles miles, transit miles, walk/bike miles	Commute distance, home size, distance to nearest grocery store, average speed limit, grid street system, population density	Pro-alternative, pro-drive alone, pro-environment, pro-growth, time-satisfied, work-driven, pro-high density, pro-transit.	Attitudes and lifestyle – travel behavior, neighborhood characteristics had little impact on travel behavior.
Van Wee et al., (2002); *Multiple regression analysis*	Car trip frequency, distance by car, Public transport trip frequency, bicycle trip frequency, distance by public transport	Commute distance, distance to railway station, distance to social recreation destinations	Preferred travel mode	Travel mode preferences – residentially choice regarding public transportation
Cao et al., (2007); *Quasi – longitudinal, SEM*	Driving, walking, car ownership	Accessibility to various land use activities, perceptions of neighborhood characteristics; accessibility, physical activities options, safety, socializing, attractiveness and outdoor spaciousness	Pro-travel, pro-transit, pro-bike/walk, travel minimizing, safety of car, car dependent, accessibility, physical activity options, safety, socializing, attractiveness and outdoor spaciousness	Attitudes, neighborhood characteristics and preferred neighborhood characteristics influence travel behavior
Scheiner and Holz-Rau (2007); *Structural Equation Modelling*	Modal share	Density of supply, quality of public transport, vehicle kilometers travelled, density and mixed land use	Lifestyle factor out-of-home self-realization, accessibility to city centre, proximity to public transportation	Attitudes, lifestyles and residential location – travel behavior
Abrahamse et al., (2009); *Multiple Regression Analysis*	Gender, age, households size, travel mode, work period, employment, travel mode	travel distance	Intention to reduce car use, attitude toward car use, subjective norm (SN), perceived behavioral control (PBC), personal norm (PN), awareness of	Car use for commuting was mostly explained by variables related to individual outcomes (perceived behavioral control and attitudes), whereas the

			consequences (AC), ascription of responsibility (AR)	intention to reduce car use was mostly explained by variables related to morality (personal intention to reduce car use was mostly explained by variables related to morality (personal norms).
Scheiner (2010); *Standardized household survey; Structural Equation Modelling*	Travel mode choice, car availability, gender, age, number of children in the household, total household size, education level, income, employment	Accessibility, travel preference, mix-land use, compact city, Trip distance; Job trip distance, maintenance trip distance, leisure trip distance	Accessibility, lifestyle (out-of-home leisure preferences), values, life aims, aesthetic taste, individual location preferences	Trip distance is strongly influenced by social status. Subjective side of social status long been neglected in transport studies. Neither lifestyles nor location preferences have a strong impact on trip distances, except for leisure activities.
Aditjandra, P. T. et al., (2012); *Structural Equation Modelling*	Socio-demographics, changes in income, changes in household size, car ownership	Shopping accessibility, travel accessibility	Pro-public transport, pro-walking, dislike-cycling, positive utility of travel	Changes in socio-demographic characteristics are the main contributors to changes in car ownership.

Tab.2 Overview of Previous Research Findings

3 METHODOLOGY

The methodology used in this research responds to the issues and aims to explore the relationships between people's residential preferences and travel behavior with a case study of on Iskandar Malaysia region. The objectives of the study presented here were, first, to confirm the role of attitudes and preferences in explaining the link between residential location selection and travel behavior. Secondly, to directly construct the factors that influence people decision on residential location selection preferences (Fig.2).

3.1 SURVEY METHOD AND STUDY AREAS

Survey techniques are based on the use of structured questionnaires given to a sample of population. According to Hair et al. (2003), survey method have several advantages, such as the ability to accommodate large sample sizes and distinguish small differences, the increased generalizability of results, the convenience of managing and recording questions and answers, the capability of using statistical analysis and the ability to tap into factors and relationships not directly measure. The data used in this paper were collected in a standardized household survey within the objectives of this research.

The survey was carried out in 2 study areas in the region of Iskandar Malaysia, which is in Pasir Gudang Municipal Council (PGMC-Eastern Gate Development flagship) and Johor Bahru Tengah Municipal Council (JBTMC-Western Gate Development and Nusajaya flagships) (Fig.3).

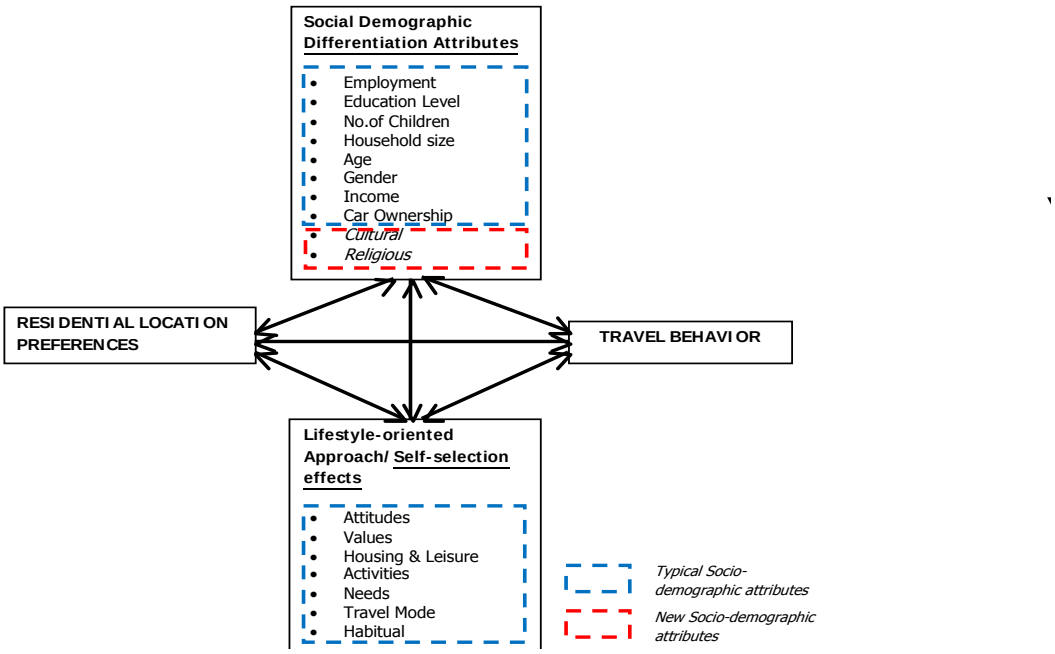

Fig.2 Methodology framework: the inclusion of cultural and religious aspects

The selections of these areas are based on three dimensions, which are, neighborhood type, land use and economic activities. Neighborhood type was differentiated as Johor Bahru Tengah Municipal Council area built more recent, while Pasir Gudang Municipal Council area mostly cover residential area built in the early 90's. While for land use and economic activities, PGMC mostly involve in industrial and services activities, which provide more job opportunities and for JBTMC are very much related to government offices and commercial. Nonetheless, spatially or socially 'extreme' areas were not purposely targeted.

Fig.3 Flagship zones within Iskandar Malaysia

3.2 SAMPLE POPULATION

In this research, cluster and stratified sampling were used in order to ensure sample characteristics are representative of the total population, where attention is paid to the group belongs to working group with the minimum age for attitudes research is 18-years old and above or considerably as an active working group. The questionnaires were only distributed to the head of household who are working, be in the government, non-government or self-employed and was carried out for a month in both study areas.

This paper studied 384 respondents (PGMC-19% & JBTMC-81%) who are an active working group. When working with samples, it is desirable to identify the sample represents the population to understand whether results might be generalized to that population or geographical background.

However, since the focus of the study is on explaining the relationships of social variables on residential selection preferences towards travel behavior, these differences are not expected to materially affect the results.

3.3 QUESTIONNAIRE DEVELOPMENT AND VARIABLES

The questionnaire was constructed largely using the findings from previous research on travel behavior, among others, are from Handy (2005), Aditjandra (2012), Acker & Wiltox (2010), Scheiner (2010) and Anable (2005). Besides that, feedback from focus group discussion that have been carried out with a group of people working with private and government sector are also taken into consideration. Input from them involved matter related to current neighborhood environment and also their preferences or choices of selecting residential area.

The questionnaires captured respondents' socio-demographic data, namely, gender, age, races, religion background, length of stay, economic status, education background, household income, household size, number of children, tenure status, possession on vehicles and also mode of transportation to activities related to work and non-work trips. Likert-type answer scales were measured for 87 statements. The statements were divided into two sections which are current neighborhood characteristics (39 statements) and also attitudes and preferences for residential location (48 statements).

Variables used in the analysis include characteristics of the current residential or neighborhood area and also respondents' residential location preferences. Travel behavior was variously measured through a series of questions on work trips, non-work trips and also distance travelled to workplace. In addition, respondents were asked to list vehicles currently available in their house or to the household. Detail of variables used can be referred in the results section.

3.4 STATISTICAL ANALYSIS

This paper used Reliability Analysis and Factor Analysis to identify the correlated variables and to create a set of factor constructs. The reliability of the scales is considered in connection with measurement models. Reliability was assessed using Cronbach's alpha coefficient (α), which is the commonly used measure of reliability. 87 statements or items were subjected to reliability analysis and, eventually, only 72 statements were found to have sufficient internal reliability *(α>0.7)* to be subsequently used in the Factor Analysis. Thus, Factor Analysis identified the latent variables or constructs underlying the 27 statements or items on current neighborhood characteristics and the 33 statements or items on attitudes and preferences of residential locations. This is called as latent constructs or latent variables.

The criterion *"Eigenvalue>1"* was used to determine the number of factors. Through this analysis, several factors were extracted and are shown in the next section of this paper.

4 RESULTS

The data for the analyses were collected in MPPG and MPJBT. These areas were chosen because they were assumed to differ in terms of their spatial or physical environment, economy activities, and status of housing areas in terms of year of built. Furthermore, the land use activities are more varied and these were assumed to be best area for data collections. Table 3 below shows the distribution of ethnics group in the study area and also the district statistic data. Overall, the data has been represented by ethnic group.

Characteristics	**Study Area**		**District**	
	MPPG	MPJBT	MPPG	MPJBT
Size Population	73	311	46,571	529,074
Ethnic group (%)				
Malay	78	54	91	39
Chinese	11	32	3	47
Indian	10	13	5	13
Others	1	1	1	1

Tab.3 Sample characteristics of population

4.1 MODEL CONSTRUCTION ISSUES

The factor analysis concluded that several factors or constructs in current neighborhood characteristics and preferences for residential location shows that new perspective in determining the factors with latent variables that never been covered before in the Western country as well as other Asia countries. By virtue of the factors construct procedure and its use of latent variables created by the factor analysis, each of the factor group or matrix has been given a name to represent its characteristics. These labels are revealed in Table 4 and Table 5 together with the latent factors loading.

Previous research has well documented that residential choices are mainly made with consideration heavily given to physical aspects of the built environment, including activities, socio-demographic background as well as car availability (Aditjandra, 2012) (Acker & Witlox, 2010). It was proven in this research that to certain aspect of society in certain areas, culture and religious aspects influenced their decision on selecting residential location.

NEIGHBORHOOD CHARACTERISTICS FACTORS	STATEMENTS	FACTOR LOADINGS*
Pro-culture within neighborhood	Respect different languages within neighborhood	0.773
	Accept the smell of neighbor cook and meals	0.670
	Low racists remarks	0.613
	Less misunderstanding with neighbors regardless of races	0.607
	Less attendance in religious activity	0.481
	'Guarded and gated' in mix-racial community area	0.504
		0.383
Safety and security	Comfortable to walk within neighborhood area	0.676
	Safe for children to play outdoor	0.573
	Low crime rate within neighborhood area	0.571
	Low level of car traffic on neighborhood streets	0.569
Built-environment	Local shops within walking distance	0.602

accessibility	Easy access to shopping centre	0.601
	Easy to workplace	0.539
	Easy access to public transport facilities	0.465
Neighborhood Attractiveness	Green environment	0.536
	Less environment conflict	0.485
	Well-kept properties	0.476
	Away from busy streets	0.470
Religious practice	Respect neighbor from different religion listening to religious songs	0.780
	Respect prayers performing by neighbor from different religion	0.667
Social status	Religious centre nearby	0.698
	Diverse religious practice among residents	0.609
	Diverse neighborhood	0.351
Neighborhood choice and involvement	Variety of house	0.550
	Visit neighbor functions	0.489
Neighborhood Facilities	Parking facilities	0.566
	Bicycle lane facilities	0.531
	Recreational area nearby	0.418

**Factor loadings represent the degree of association between the statements and the factors. Extraction Method: Principal Axis Factoring (PAF. Rotation Method: Varimax with a Kaiser Normalization Rotation converged in 19 iterations.*

Tab. 4 Factors of current neighborhood characteristics

NEIGHBORHOOD CHARACTERISTICS FACTORS	STATEMENTS	FACTOR LOADINGS
Religious Practice	Diverse religious practice	0.756
	Many religious practice nearby	0.754
	Don't mind with prayers performed by neighbor from different races	0.689
	Frequent religious preaching	0.688
	Don't mind with neighbor from different religion listening to religious songs	0.587
Residential Location	Local shops within walking distance	0.714
	Easy access to workplace is an important factor Easy	0.633
	access to worship or religious centre	0.626
	Easy access to shopping centre	0.519
	Easy walking routes throughout the neighborhood	0.480
	Sufficient parking facilities are the main priority	0.432
	Prefer park and recreational area	0.377
Neighborhood Attractiveness	Adequate house space	0.771
	Affordable house	0.708
	Green environment	0.547
	Mix-land use	0.454
Travel Behavior	Prefer to walk rather than drive whenever possible	0.917
	Prefer to cycle rather than driving whenever possible	0.719
	Walking is easier than driving	0.653
Pro-Public Transport	I prefer to take public transport rather than driving	0.727
	Most of the time, I will travel by public transport	0.719
	Public transport operate on regular basis	0.560
	Public transport routes cover my residential area	0.447

Safety	Safe for children to play outdoor	0.789
	Comfort to walk	0.707
	Low level of car traffic	0.455
Socio-culture	Less conflict among races are an important consideration	0.696
	Do not mind with different language within neighborhood	0.490
	Interaction among neighborhood are very good	0.435

**Extraction Method: Principal Axis Factoring (PAF) Rotation Method: Varimax with a Kaiser Normalization Rotation converged in 6 iterations.*

Tab.5 Factors for residential location preferences

5 DISCUSSION

5.1 THE NEW PERSPECTIVE ON RESIDENTIAL PREFERENCES

Neighborhood characteristics and residential location preferences indicates and reflects fundamental differences from the previous research or studies. The comparison of respondent's perceived neighborhood characteristics for their current residence and their preferences for neighborhood characteristics indicates how well their current neighborhood meets their preferences.

Nevertheless, the findings have shown that culture and religious plays such a significant role in respondent's decisions in residential location selection.

This study, though, enhance our understanding of the complicated and comprehensive relationships among residential location preferences, attitudes toward land use, travel and transportation.

We have investigated to what extent respondent's preference differs not only by residential neighborhood, but also by the present and level of mismatch their preference on neighborhood environments and surroundings.

The survey largely indicates that consideration on religious practice was among the important factor that has been considered in respondent's decision on residential location selection. In the previous studies, physical formed of consideration have been given importance.

However, in this study, social status is considerably among the highest and correlated with residential location selection preferences. These findings add a different perspective on travel behavior studies before, which are heavily dominated by researches from Western Europe, North America and Australasia.

The factor analysis produced many undiscovered issues in social context by other researchers. This, perhaps, will bring new perspective of travel behavior studies where transport researchers need reject universal conclusions and be clearer about the contexts in which their findings most apply.

So far, the findings generally confirm standard knowledge and findings in residential location considerations and travel behavior studies. Turning our attention to social status and aspects, it was found that social contexts to be the major impact for residential location preferences. In Malaysia context, social contexts among Malaysian appear to be very strong preference.

The findings add new knowledge to the previous research that found land uses, facilities and accessibility are much correlated with residential location selection preferences (Schwanen and Mokhtarian (2005), Handy et al. (2005), Scheiner (2010), Aditjandra et al. (2012).

Travel behavior studies shows that the importance to understand the local context should be extended to the difference perspective, such as their cultural values, religious practices, lifestyles and even food that they consumes.

These have been proven through this empirical study, which identified that religious preaching, language spoken and also religious center will be taken into consideration.

Hence, the research indicates that residential location preferences choices requires a unique, expanded of existing version of travel behavior studies incorporating social aspects to improve and enhance the current framework in this context.

More sophisticated analyses of these data, such as structural equations modelling (SEM), will help to establish the strength and direction of residential location preferences and its relationship with travel behavior. For instant, the factor analysis helps to identify the relevant latent constructs on current neighborhood characteristics and eventually, on their preferences (Aditjandra et al., 2012).

Future studies that adopt research designs that more or less resemble this study will provide more evidence on this empirical result.

Further studies and experimentation like relationship between latent variables and further exploration on how these latent variables relates to travel behavior decision process are needed to illuminate the complex and comprehensive relationships and their implications for policy and planning. Nevertheless, this study has seen the difference context of residential location and travel behavior studies.

The results presented here provide some encouragement that land-use policies designed to put residents closer to destinations will actually need to be given more considerations and deep understanding on people's social status and preferences.

What lessons for policymaking can be drawn from this study? Policies that could attract people to shift near to their workplace, especially in the new areas including mix-religious institutions that allow people to move within or closer to their respective residential area.

Although this study does not discuss on the policies aspects context, though it provides evidence that such considerations are very significance in multi-racial countries.

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IMAGE SOURCES

All the Tables and figures are elaborated by the Authors, except: Cover Image: http://www.commons.wikimedia.org; Tab.1: Adopted from Marshall and Banister (2007); Fig.3: Iskandar Regional Development Authority, 2010.

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REVIEWS PAGES

SMART COMMUNITIES BETWEEN GOVERNANCE AND SOCIAL PARTICIPATION

Starting from the relationship between urban planning and mobility management, TeMA has gradually expanded the view of the covered topics, always remaining in the groove of rigorous scientific in-depth analysis. During the last two years a particular attention has been paid on the Smart Cities theme and on the different meanings that come with it. The last section of the journal is formed by the Review Pages. They have different aims: to inform on the problems, trends and evolutionary processes; to investigate on the paths by highlighting the advanced relationships among apparently distant disciplinary fields; to explore the interaction's areas, experiences and potential applications; to underline interactions, disciplinary developments but also, if present, defeats and setbacks.
Inside the journal the Review Pages have the task of stimulating as much as possible the circulation of ideas and the discovery of new points of view. For this reason the section is founded on a series of basic's references, required for the identification of new and more advanced interactions. These references are the research, the planning acts, the actions and the applications, analysed and investigated both for their ability to give a systematic response to questions concerning the urban and territorial planning, and for their attention to aspects such as the environmental sustainability and the innovation in the practices. For this purpose the Review Pages are formed by five sections (Web Resources; Books; Laws; Urban Practices; News and Events), each of which examines a specific aspect of the broader information storage of interest for TeMA.

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The web report offers the readers web pages which are directly connected with the issue theme.

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02_BOOKS
The books review suggests brand new publications related with the theme of the journal number.

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评论页面：
介于治理与社会参与之间的智能社区

TeMA 从城市规划和流动性管理之间的关系入手，将涉及的论题逐步展开，并始终保持科学严谨的态度进行深入分析。在过去两年中，智能城市（Smart Cities）课题和随之而来的不同含义一直受到特别关注。
学报的最后部分是评述页（Review Pages）。这些评述页具有不同的目的：表明问题、趋势和演进过程；通过突出貌似不相关的学科领域之间的深度关系对途径进行调查；探索交互作用的领域、经验和潜在应用；强调交互作用、学科发展、同时还包括失败和挫折（如果存在的话）。
评述页在学报中的任务是，尽可能地促进观点的不断传播并激发新视角。因此，该部分主要是一些基本参考文献，这些是鉴别新的和更加深入的交互作用所必需的。这些参考文献包括研究、规划法规、行动和应用，它们均已经过分析和探讨，能够对与城市和国土规划有关的问题作出有系统的响应，同时还对诸如环境可持续性和在实践中创新等方面有所注重。因此，评述页由五个部分组成（网络资源、书籍、法律、城市实务、新闻和事件），每个部分负责核查 TeMA 所关心的海量信息存储的一个具体方面。

01_WEB RESOURCES
网站报告为读者提供与主题直接相关的网页。

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02_BOOKS
书评推荐与期刊该期主题相关的最新出版著作。

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03_LAWS
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04_URBAN PRACTICES
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05_NEWS AND EVENTS
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01

SMART COMMUNITIES BETWEEN GOVERNANCE AND SOCIAL PARTICIPATION

REVIEW PAGES: WEB RESOURCES

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In this number
SOCIAL PARTICIPATION FOR THE SMART CITY

Engaging citizens in the management of urban space has recently become one of the main strategies for creating a smart city and promoting social equity, because cities can no longer be considered as mere container for human actions, places of consumption or just spaces to be exploited.

Active citizenship concerns the involvement of people to enable knowledge and innovation generation processes, allowing the creation of new knowledge and making citizens more aware of the city they live in.

Today, the participation of urban communities is favored by new technologies, which allow different ways of interaction within the urban context making communication and spread of information easier and immediate.

In this issue of TeMA, the three websites proposed below – kickstarter.com, smartcitizen.me, campusbubble.com – relate with the broad theme of social participation, each of them from a different perspective.

Kickstarter is the most famous crowdfunding platform that thanks to a widespread private monetary action funds creative projects; crowdfunding can be considered one of the most innovative way of promoting social engagement because it makes creators and bakers feel like they are part of a larger global community built around an idea, a project.

Smart Citizen is a platform that uses geo-referenced data provided by citizen to map cities and create new knowledge. This project, born in Spain and worldwide supported, is based on the idea that social participation can make the difference for building a better city: open source platforms allow people to get involved and informed about the management of cities and also help decision makers to define more targeted and reliable actions.

Campus Bubble is a private social network for educational institutions that provides a cross-platform to make the exchange of information between university groups easier, so to increase collaboration and student engagement. In this case the issue of social participation is approached at a smaller scale: the campus can be considered a minor part of the city and the academic community is nothing more than a community of citizens; from this perspective, Campus Bubble aims to involve people in the organization of campus life.

KICKSTARTER
http://www.kickstarter.com

Crowdfunding can be defined as the practice of collecting many small amounts of money from backers over the internet to finance a project and/or idea; maybe not surprisingly, it has exploded in the US in 2009, at the beginning of the financial crisis.

Its "mission is to help bring creative projects to life", as stated by Kickstarter, the gorilla among crowdfunding platforms, in line with Obama's recommendation "to be makers of things, not just consumers of things".

Since its first launched five years ago, Kickstarter's funders have pledged over 1 billion dollars, successfully financing over sixty-four thousand creative projects, coming from all seven continents.

One basic rule makes the funding platform work: "every project creator sets their project's funding goal and deadline. If the project succeeds in reaching its funding goal, all backers' credit cards are charged when time expires. If the project falls short, no one is charged". Projects cannot last longer than sixty days.

People pledging money can "choose from a variety of unique rewards offered by the project creator. Rewards vary from project to project, but often include a copy of what is being produced (CD, DVD, book, etc.) or an experience unique to the project".

Kickstarter applies a 5% fee to the money raised by each funded project and creators retain 100% ownership of their idea. The website is the only interface of Kickstarter company, which involves 81 people based in Brooklyn. All projects – funded, not funded, in progress – can be explored in the *Discover* page of the platform, divided into fifteen categories, from art and crafts to music and technology. Projects can also be sorted by popularity, launch/end date or just by "magic", choosing a location that can be the entire earth, or your city.

Each project has its own page where creators share with backers as more information about their project as possible: although videos are not mandatory, Kickstarter team recommend project creators to include one, because "projects with a video succeed at a much higher rate (50% vs. 30%), and they also raise more money". Furthermore, in the project page there are information about the number of supporters that have already funded, the amount of money collected, the project deadline, and the list of rewards for the backer community, together with a detailed description of what the creator is trying to do and why.

The more the project page is clear and inspiring, the more potential supporters will appreciate it.

The section *Creator Handbook* on Kickstarter's website provides creators instructions for getting started with shaping their projects; the guide aims at helping creators to build their project page, choose the most appropriate rewards, set the funding goal and the project deadline, plan the best strategy to promote the project and find support, update backers on their progress and finally achieve the fulfillment getting their rewards to supporters and communicate with them.

Kickstarter is one of the earlier platforms for crowdfunding and one of the most successful, but it is not the only; in fact, depending on your crowdfunding goals and needs, there are several crowdfunding sites that have different models and focuses.

If in 2012 the overall crowdfunding industry has raised $2.7 billion (Crowdfunding Industry Report) and in 2013 the industry return was projected to grow to $5.1 billion, we expect that the phenomenon will continue to increase in importance in the next years.

SMART CITIZEN
https://www.smartcitizen.me

"Smart Citizen is a platform to generate participatory processes of the people in the cities. Connecting data, people and knowledge, the objective of the platform is to serve as a node for building productive open indicators and distributed tools, and thereafter the collective construction of the city for its own inhabitants." These words open the *Homepage* of smartcitizen.me, the website dedicated to the project born within Fab Lab Barcelona and the Institute for Advanced Architecture of Catalonia with the goal of mapping cities using data from their citizens.

In a time of global economic instability, the Smart Citizen system connects people, knowledge and data trying to jump start economy from the bottom, engaging citizens in the management of the city the live in. Many different types of environmental information are provided on the platform, such as levels of air pollution, humidity, temperature and noise.

The project got founded thanks to two crowdfunding platforms – kickstarter and goteo – where backers donated over eighty thousand dollars. At now, the community of citizens participating in the project counts more than 340 people and 283 sensors distributed worldwide; each citizen as a personal panel on the website that includes information about geolocation, last update and data sensors.

In the *News* section of the website visitors keep updated on the new citizens joining the network and on the new sensors added.

Furthermore, on the platform it is also possible to pre-order the Smart Citizen Kit (SCK), designed by E. Perotti and M. Kukucka and called *The Ambient Board,* which "carries sensors that measure air composition (CO and NO2), temperature, light intensity, sound levels, and humidity" and "is able to stream data measured by the sensors over Wi-Fi". European potential buyers can choose between three different models, with a minimum price of 99 € up to 244 € for the complete kit, while not-Europeans can just order one model for 175 $.

Additional information on how to use the SCK is included in the *Docs* section, where several tutorials help new users to getting starter with the kit; moreover, a community forum is available for all different types of questions and doubts.

The project is very recent and after the big crowdfunding success it seems to continue attracting the interest of people looking for a better city; most probably, we will hear more about it in the future.

CAMPUS BUBBLE
www.campusbubble.com

Campus Bubble (CB) is a private social network that connects academic communities within universities, from students to faculty members and administrative staff.

In order to overcome a common problem for academies respect the way they share information, often fragmentized and hardly accessible, Campus Bubble provides a cross-platform to "centralize and simplify" the exchange of information between university groups so to promote collaboration and student participation.

The idea of Campus Bubble was born at Emory University, in Atlanta, where a small group of friends – coming from six different countries and with different backgrounds – share a common objective: "impact student engagement and retention"; today, three years after the founding of CB, this team of eleven people is supported by the work of "the ambassadors", which help to spread the network to other universities, and of the "trusted advisors", i.e. leading personalities in the education and business sectors that contribute to build the long-term strategy of the company.

The initiative is becoming more and more popular and not just in the U.S., where it has been founded, but also worldwide.

Campus Bubble is already active at Emory University, its incubator, but other educational institutions are now approaching the new private social network and among these there are also elementary, middle and high schools, where young students and their parents will benefit from the safety and ease of communication in a private environment.

A meticulous description of CB and its functionalities can be found on campusbubble.com, where it is also possible to sign for "getting Bubble for your campus" or just scheduling a demo. Bubble is available on the web, as well as a mobile app, and it allows students to easily access the system just using their school credentials.

Once an educational facility chooses to adopt CB, the implementation process starts, including marketing events for promoting Bubble among students, product demonstrations for every level of the administration and also a 24/7 support.

Campus Bubble provides an alternative, private and reliable, to Facebook; let's hope it has the same success.

IMAGE SOURCES

The images are from:

http://sweetclipart.com/diverse-people-raising-hands-968; http://www.containsmoderateperil.com/kickstarter-and-the-myth-that-everything-is-awesome/kickstarter-logo-www-mentorless-com_/;http://www.cities.io/news/; http://waag.org/en/news/smart-citizen-kit-next-steps; http://www.thinkinnovation.org/campus-bubble-arriva-il-social-network-per-le-universit%C3%A0/

02

SMART COMMUNITIES BETWEEN GOVERNANCE AND SOCIAL PARTICIPATION

REVIEW PAGES: BOOKS

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In this number

OPEN GOVERNMENT DATA AND SMART COMMUNITIES INITIATIVES

Within the wide debate about smart cities the issue of social participation and innovation has been spreading quickly. As the Italian Digital Agenda states, without the participation of citizens smart city cannot exist, according to the fact that the urban smartness needs a social capital who knows how to operate, in order to prevent that a lack of expertise by users in the field of ICT could be an obstacle to the development of its economic and competitive potential (Gargiulo, Pinto, Zucaro 2013). Beyond the several definitions and outlooks provided by scientific research (Phills et al. 2008; Hoogendoorn et al. 2010; Murray, Caulier-Grice, Mulgan 2011), social innovation should be intended as a collaborative process in which communities are directly involved so as both to solve a problem and generate new opportunities. In this perspective, the active involvement of citizens led to a high and positive impact for society estimable in terms of social and economic capital, as well as governance. Nevertheless social innovation requires infrastructure and education and with regards to the first one we should not only think about the hardware part, but also about the software that, in a broader view, means applications, services and data. According to IBM, about 2.5 quintillion bytes of data are created every day (enough to fill about 57.5 billion 32 GB iPads daily) and this huge increase in the amount of data, combined with openness and technologies, has dramatically changed the nature of data from a closed proprietary resource to a common shared resource. A large number of governments have started to make their data available on the web through Open Government Data (OGD) portals that provide statistics, reports and geo spatial information. The OGD refer to government data, defined as "data and information produced or commissioned by government or government controlled entities" (OKF, 2012), that are opened up for use and re-use by public and private agents alike. Different challenges related to policy, technology, financing, organisation, culture, and legal frameworks may be associated with the implementation of OGD initiatives which, if not properly tackled, might obstruct or restrict the capture of benefits of national efforts aimed at spurring OGD.

According to these brief considerations, this section proposes three documents related to how technology can strengthen good government (for instance by enabling greater transparency of government actions through open data) and how participation processes can improve the quality of everyday life.

Title: Open Government Data: Towards Empirical Analysis of Open Government Data Initiatives
Author/ editor: Ubaldi B.
Publisher: OECD Publishing
Download: http://www.oecd-ilibrary.org
Publication year: 2013
ISBN code: n.d.

The OECD Open Government Data (OGD) project is oriented to evaluate the international efforts made until now to challenge their implementation. Indeed OECD aims at setting up a knowledge framework of OGD policies, strategies and initiatives in order to develop a methodology to assess the impact of OGD on the improvement of government performance. For this purpose the first step is represented by this report which collects the main principles, concepts and criteria of OGD initiatives around the world and the related chances that can be given to policy makers.

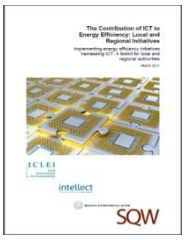
Even though the OGD is still a term used as an umbrella for a lot of concepts, the author of this report explains the difference among the Public Sector Information, which is related to ”information disseminated, or funded by or for a government or public institution”, the Big Data that are a “collection of datasets so large and complex that it is difficult to use on-hand database management tools, or traditional data processing applications” and the OGD that are characterised by two main elements: they are elaborated or accredited by public bodies and open data are can be freely used and distributed by anyone, on condition that users attribute the data and that they share their work.

Thanks to these characteristics, the potential benefits of their use are not only considered in monetary and economic terms, but also from social and good governance perspectives. In addition to the income that can be generated by commercialising government data, OGD initiatives allow also to people both to make decisions that can enhance the quality of their lives and to increase participation in public affairs. Nevertheless the achievement of all these advantages depends on overcoming the challenges related to policy, technology, financing, organisation, culture, and legal aspects.

Data accessibility and sharing between public authorities and the users requires a consistent legal framework to ensure transparency and controlling information. For instance, the Open Data White paper published in the UK (2012), aims at explaining how the Government intends to put data and transparency at the heart of government and public services. In order to facilitate and coordinate the work of public agencies in the transition towards OGD provision, it should be defined when and which kind of data can be published in readable formats and how to deal with approved publishing formats. To this aim guidelines, handbooks and benchmarking activities represent useful measures a government may chose; European countries as Norway, Spain and France have already published them.

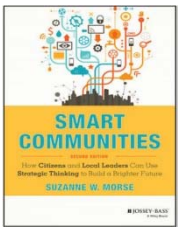
In addition to all these key issues that are worth being debated and addressed by governments, the last section of the report focuses on the methodological framework for evaluating OGD initiatives with the purpose of “developing a common set of metrics to consistently assess impact and value creation within and across countries”. The author suggests a methodology to perform empirical analysis of OGD initiatives, to be applied both to ex post and ex ante analysis, based on questionnaires and interviews.

This framework represents just a first step towards a quantitative assessment of OGD quality, in order to start defining the necessary phases to design and implement OGD initiatives, and it does not provide a set of well-defined indicators.



Title: Future of Government – Smart Toolbox
Author/ editor: AA VV
Publisher: World Economic Forum
Download: http://www.weforum.org
Publication year: 2014
ISBN code: n.d.

The World Economic Forum's Council on the Future of Government, in cooperation with the United Arab Emirates (UAE) Government, developed this report in order to analyse how technology has impacted governments and their work. The UAE has been in the forefront of technological innovation to improve government services, and it has been ranked second in the Government Usage of ICT index, within the Global Information Technology Report (2014) by the World Economic Forum.
The starting point is that technology can help government re-build trust through several channels, such as e-participation, or social media, and allows to create a synergistic relationship between leaders and followers. Nevertheless technology on its own is not enough to build smart governments; according to the report, trust and leadership have to characterise the input variables for a good government, whose performance can be enhanced by the mix of soft and hard power elements used in a smart way. Hence the title of the report. Measuring trust can help government to benchmark progress, identify gaps and learn from best practices across the world. Building leadership in the technological era will occur through information technology, big data, and disruptive and exponential technologies ("governments as well as the world's top enterprises will need to employ exponential technologies and innovation to dramatically accelerate their objectives"). The question the authors attempt to answer is how technology can help governments get better at dealing with eight key government priorities: anti-corruption, political representation, delivery of services, trust, leadership, security and innovation. In each one of the eight chapters that describe the main elements, the potential application of ICT and the examples of good government in the eight core areas, the authors highlight that governments need to review the plans and strategies to reach to the citizen expectations, especially with the current massive technical developments. Pointing out that governments have the largest base of customers in the world, offering their services to seven billion people, technology can strengthen good government such as by enabling greater transparency of government actions through open data, or empowering citizens to have faster and more accurate access to online services. The Chinese government, in the Eastern area of the country, launched some open and e-commerce platforms providing data and one-stop access to public services to help businesses in the region better compete in the global market. In Norway, one of the world's leaders in public sector innovation, a centralized platform that allows its users to search and request documents at all levels of government and service (taxation, prescription medication, pension and so on). As part of the toolbox, the last chapter describes three scenarios on how the world of governance could evolve by 2050, on the basis of interviews Council Members, to understand their perceptions of the main forces of change that will impact the role and forms of governments in the future. Indeed the aim is twofold: making this smart toolbox as forward-looking as possible and facilitating the dialogue on the options we have now to shape desired governance systems of the future. City State refers to a world where authority is decentralized to the city level; e1984 is characterised by the spread of Big Data is realized; Gated Community where all these services are entirely managed by private companies.



Title: Smart communities: how citizens and local leaders can use strategic thinking to build a brighter future
Author/editor: Morse W. S.
Publisher: Jossey-Bass
Download: n.d.
Publication year: 2014
ISBN code: 978-1-118-42700-2

Susanne Morse, the author of this book, is the president of the Pew Partnership for Civic Change, a civic research organization providing consulting to governments and foundations to identify and implement solutions to make communities stronger. Thanks to the results of more than a decade of research by this organization, this book describes the key strategies used by thousands of leaders that have been able to create successful communities, giving to leaders from both the public and private sectors the tools they need to create a better future for the community's citizens.

The author stresses the complexity and connections of community problems, referring always to the two main themes that are at the basis of the book: the awareness and the need to act with a bottom-up approach, because, as the author states, “to be citizens who feel connected to our communities, and thereby creating better lives for ourselves and for our neighbors, we must be aware of the critical issues in our communities”. Morse’s research led to the identification of seven high leverage points that are all necessary to manage changes in the communities and to build successful ones:

- investing right the first time: identifying the main elements that allow to obtain the greatest return, by using the “triple bottom line” concept that means budgeting, investing and decision making;
- working together: developing the vehicles that communities can use to organize themselves for more collaborative approaches (for instance partnerships necessary to create new opportunities for success) and overcome the barriers that prevent them;
- building on community strengths: focusing on what is right, by experimenting new ways of thinking to lead to better results;
- practicing democracy: developing ways for citizens to actually decide the future, rather than always just reacting to it;
- preserving the past: using history, buildings and culture to inform and catalyze the future, in order to create different scenarios that contribute to the economic and quality of life indices;
- growing leaders: getting citizens prepared, activated and encouraged to get involved, to develop their capacities and3 to take action together;
- investing in a brighter future: encouraging risk-taking and entrepreneurship in dealing with community issues.

Each one of these seven key issues is described in a different chapter that follow a general pattern of identifying the issue, discussing it, reporting several case studies, briefly described, and framing the lessons learned.

Summarising, this book, as the author states in the title, is aimed at citizens and local leaders who are committed to their community and it differs from the other community-building books in different aspects: it describes both practices and results related to smaller cities and rural areas and highlights that in the next future successful communities will have adapted to change, reinvented their economy and redefined themselves through public processes. The question is not what they will be like, but who will they be?

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03

SMART COMMUNITIES BETWEEN GOVERNANCE AND SOCIAL PARTICIPATION

REVIEW PAGES: LAWS

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In this issue

THE EU E-GOVERNMENT ACTION PLAN 2011 – 2015

In recent years, the European Union has started a process of radical reforms that call for a revolution in the structure and in the functioning of Public Administration. These changes concern in particular the process of computerization of the public administration, renamed “eGovernment” (from Electronic Government), which should allow to manage the documentation and administrative procedures with digital systems, and could provide a wide variety of benefits including more efficiency and savings for governments and businesses, increased transparency, and greater participation of citizens in political life.

E-government is defined as «the employment of the Internet and the world-wide-web for delivering government information and services to the citizens» (UNDESA 2012); so, it implies the use of the Information and Communication Technology (ICTs) in order to improve and streamline operations and services offered by the Public Administration, aimed at:

- improving operational efficiency within each Administration;
- computerizing the delivery of services to citizens and businesses that often involve integration between the services of different administrations;
- allowing an on line access to the government services and information.

In this context, the new information technologies play a crucial role as they represent the operational tool to improve delivery of digital services both for citizens and businesses, in a number of domains such as in procurement, justice, health, environment, mobility and social security, and respond to an innovation request more and more widespread and demanding. Thanks to ICTs, citizens can benefit from the services provided by the public sector in an innovative, efficient and economical way.

ICTs are already widely used by government bodies, as it happens in enterprises, but eGovernment involves much more than just the tools. It also involves rethinking organisations and processes, and changing behaviour so that public services are delivered more efficiently to people (ec.europe.eu). As a matter of fact, to get to be “smart”, a city not only has to face a technological challenge but has to make organizational changes at administration level, ensuring the involvement of all stakeholders.

CONTENTS, PRIORITIES AND ACTIONS OF THE PLAN

Formerly, it was the Malmo Ministerial Declaration in 2009 that defined the priorities for all European public administrations over the next 5 years, setting out that by 2015 European public administrations should be «recognised for being open, flexible and collaborative in their relations with citizens and businesses. They use e-Government to increase their efficiency and effectiveness and to constantly improve public services in a way that caters for user's different needs and maximises public value, thus supporting the transition of Europe to a leading knowledge-based economy» (EC 2009).
With the European e-Government Action Plan 2011-2015, European Commission is committed «to developing and promoting more useful and better ways, relying on ICT solutions, for businesses and citizens to participate in public policy consultations, debates and policy-making processes» (EU 2010).
On this basis relies the European e-Government Action Plan 2011-2015 "Harnessing ICT to promote smart, sustainable and innovative Government", aimed at increasing the capacity of citizens, businesses and other organisations to be pro-active in society through the use of new technological tools.
Published in December 2010, it forms an integral part of the 2020 Digital Agenda of which contributes towards fulfilling two key objectives:

- by 2015, a number of key cross-border services will be available on line – enabling entrepreneurs to set up and run a business anywhere in Europe independently of their original location, and allowing citizens to study, work, reside and retire anywhere in the European Union;
- by 2015, 50% of EU citizens will have used e-Government services.

Since e-Government services are also of great importance for businesses, this Action Plan also aims that by 2015, 80% of enterprises will have used e-Government.
The European Commission's main responsibility is to improve the conditions for development of cross-border eGovernment services provided to citizens and businesses regardless of their country of origin; while each Member State should set their own targets and show how to achieve these targets by means of measures such as adopting legal instruments, setting standards, etc..
Through the implementation of this Plan, then, the European Union is trying to move towards a more open model of design, production and delivery of innovative online services able to allow the European governments to provide better public services with fewer resources.
In order to achieve this aim, the Commission sets out 4 political priorities for all European public administrations that fits with the priorities defined in the Malmö Declaration:

Priority 1: User empowerment

User empowerment aims at «increasing the capacity of citizens, businesses and other organisations to be pro-active in society through the use of new technological tools.[...]. Empowerment also means that governments should provide easy access to public information, improve transparency and allow effective involvement of citizens and businesses in the policy-making process» (EU 2010)

In order to empower users, the Commission will support Member States to:

- develop services designed around users' needs, and inclusive services: this involves, for example, to track allocation of allowances or benefits, enroll in schools or universities, request and receive online civil certificates, submit online tax declarations.
- introduce collaborative production of services: in order to enable users to play an active role in the design and production of public services; to do so the Commission will assess how to involve users actively in design and production of eGovernment services and further elaborate recommendations/guidelines with and for the Member States;
- re-use public sector information (PSI): this action is linked to the re-use of data (such as geographical, demographic, statistical, environmental data etc...) gathered by public authorities and in many cases not used anymore. The release of this kind of public data probably will allow citizens and businesses to find new ways to use it and to create new innovative products and services.
- improve transparency: the action aims at allowing users to trace their personal data stored by public administrations, enabling users to check who accessed their administrative files and giving users insight in the process of decision making;
- foster the involvement of citizens and businesses in policy-making processes: Member States are committed to developing and promoting more useful and better ways for businesses and citizens to participate in public policy consultations, debates and policy-making processes.

Priority 2: Strengthening the internal market

In order to strengthen the internal market so to apply for services from one country when in another EU country, the Commission proposes various initiatives to develop:

- seamless business services: through these action, the Commission intends to put in place a cross-border infrastructure which will enable businesses to sell and provide services and products all across the EU, through easy electronic public procurement;
- personal mobility: the Commission will provide cross-border and interoperable eDelivery services for citizens, e.g. so that they can study, work, reside, receive health care and retire anywhere in the European Union;
- implementation of cross-border services at EU level: the Commission will support and coordinate the efforts of Member States to roll out a number of key cross-border public services between 2012 and 2015 and identify appropriate life events/stages.

Priority 3: Improving the efficiency and effectiveness of Governments and administrations

The actions on this priority is oriented at improving the efficiency and effectiveness of Governments and administrations by using ICT, which would enable:

- organisational processes to be improved: the Commission wants to rationalise administrative processes by transforming the ePractice portal and mainstreaming online public procurement procedures; in order to do so, the Commission, in close cooperation with Member States will set up a programme for staff exchanges between administrations in different Member States and will implement an ambitious eCommission Action Plan for 2011-2015, including full electronic procurement, a public sector information strategy and a transparency policy.
- administrative burdens to be reduced: this action aims at the simplification of administrative processes, e.g. through smart use by public authorities of citizens' available information and by applying the principle

of 'once-only' registration of data whereby the information needed from citizens is only collected once, on condition that data and privacy protection requirements are met;

– green administration to be prioritised: this involves reducing the carbon footprint of administrations in Member States. To this end, the Commission intends to collect best practices in order to develop indicators and evaluation procedures specifically for government.

Priority 4: Creating preconditions for the development of eGovernment

In order to implement the actions that will enhance eGovernment services in Europe, a number of technical and legal pre-conditions need to be put in place, such as:

– promote interoperability: in order to enable collaboration between administrations in Europe. In particular, standards and open platforms offer opportunities for more cost-effective use of resources and delivery of services.
– Rely on key enablers: such as the development of electronic identification (eID) technologies and authentication services that are essential for the security of electronic transactions (in both the public and private sectors). In addition, the Commission intends to propose a revision of the eSignature Directive to enhance security;
– Benefit from innovative technical approaches: the new generation of eGovernment services will need to rely on and benefit from innovative technical approaches, such as clouds of public services and service-oriented architecture (SOA) to build open, flexible and collaborative eGovernment services while at the same time lowering ICT costs. In particular, this action aims to identify and disseminate tested and safe solutions for clouds of public services, SOA and transition strategies for converting from IPv4 to IPv6.

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IMAGE SOURCES

The image of page 2 is taken from ec.europe.eu.

04

SMART COMMUNITIES BETWEEN GOVERNANCE AND SOCIAL PARTICIPATION

REVIEW PAGES: URBAN PRACTICES

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In this number

ICTS IN PARTICIPATORY PLANNING: THREE CASE STUDIES

The desire to build sustainable and inclusive societies has come with the recognition of the value of involving the public in planning and decision-making processes (Rinner and Bird, 2009). Several initiatives word-wide have demonstrate that, if done effectively, participatory planning may have different positive social outcomes. Indeed, local governments can use participatory planning methods in order to develop policies based on shared values and trust, achieve common goals and encourage two-way communication with citizens (Yetano et al., 2010). At the same time, participatory planning process may educate citizens about the rationale and complexity of policy-making, legitimize government decisions, and provide opportunities for mutual learning (Phang and Kankanhalli, 2008). In this contest, the Information and Communication Technologies (ICTs) are believed to provide a valuable tool to enhance proactive citizen participation and collaboration, as well as foster openness and transparency (McDermott, 2010). As technology has become more advanced, an increasing number of ICT-based participatory planning initiatives have been developed around the globe.
In this paper, we present three European case studies:

- The use of 3D city models in the contest of two regeneration initiatives in the city of Bologna;
- The development of a ICT based platform in the context of the Hérault river basin water management plan;
- The application of a Public Participation Geographic Information Systems (PPGIS) in the context of the Helsinki Master Plan.

This contribution aims to analyze, through a case-study approach, the currently emerging opportunities offered by Information and Telecommunication Technologies in addressing social participation challenges and to identify common successful factors. In this regard, a strong collaboration between key players (i.e. local governments, policy makers, local communities and scholars) has emerged as important common conditions for the successful implementation of a participatory planning process. A second common successful factor consists in the development of a planning support tool that takes into account the complexity and the diversity of the social, environmental and economic context of reference. With different strategies and different solutions, the case studies analysed have shown how ICTs can be key factors to support collaborative dialogue between policymakers and citizens and creates results that are more readily accepted and relevant within communities by incorporating local knowledge and opinions into decision-making.

THE USE OF 3D CITY MODELS IN THE CONTEST OF TWO REGENERATION INITIATIVES IN THE CITY OF BOLOGNA

Urban planning and renewal is a very complex process consisting of tasks that require joint decision making. In such tasks, methods that allow a clear communication of design and planning options between policy makers and citizens are considered of critical importance (Rabino et al., 2014). Transition from paper-based planning process to developing 3D city models using digital maps has simplified and expedited the decision-making process by facilitating communication between professionals and citizens about a number of issues pertaining to design and planning (Zyngier et al., 2014).

The urban API tools represent a valuable example of the use of visual 3D city model in participatory urban planning process. The project has been funded by the European Commission in the context of European initiatives to improve policy as a more transparent and understandable process. It is a three-year, multi-partner collaborative project involving a number of European Universities and local governments. The aim of the project is to develop ICT tools to support urban governance and spatial planning.

The City of Bologna is one of the local partner that is currently pursuing urban API solutions for both urban planning as well as environmental objectives. A pilot area of the city centre has been chosen for the application of the "3D Scenario Creator", a tool developed within the API project aimed at addressing the issue of stakeholder engagement in the planning process through the development and provision of enhanced virtual reality visualisations of neighbourhood development proposals.

Since 2013, the tool have been applied within two municipalities programs ("Ambiente Vitale" and "Di nuovo in centro") aiming to improve pedestrian and bike accessibility within the city centre as well as meliorate the quality of the public space for its inhabitants.

The application of the tool allows urban planners to present their plans to a wide audience and hence raise the awareness among citizens about future developments. 3D visualisations of the district's routes has been realised and presented during workshops and seminars.

The 3D Scenario Creator is currently helping planners to better visualize urban transformations in the district, improve interdepartmental collaboration and coordination in decision-making, and take account of citizens' opinions and suggestions, in line with the community participation processes already started with the many citizen committees and cultural associations.

Through the 3D Scenario Creator, citizens are able to interact with the Municipality. They can suggest, for example, the localization of bike and car sharing points, or public transportation and cycle track routes. They can also provide inputs concerning the management of pedestrians' route ways or the rubbish collection system. The use of enhanced virtual reality helps citizen in understanding and express their opinions regardless different planning options of rehabilitation of public spaces.

The tool helps planners to take easily in consideration citizens' suggestions and feeds, in order to better take care of interests and needs of the community, and come to an agreement with environmental sustainability issues.

The Bologna example demonstrates the ways in which the complexities of the policy modelling process can be facilitated by ICT tools. 3D visualisation itself provides a major advance in communication between the policy-making community (urban planners and the political domain) and urban stakeholders, including citizens.

THE DEVELOPMENT OF A ICT BASED PLATFORM IN THE CONTEXT OF THE HÉRAULT RIVER BASIN WATER MANAGEMENT PLAN

The complex and dynamic nature of environmental problems requires flexible and transparent decision-making that reflects a diversity of values and knowldeges (Reeds, 2008). Emerging discourses on environmental management recognise the need for new approaches that encourage stake-holders participation in order to enhance adoption and practice change.

The European Union has recently recognised this need by adopting a number of directives such as the EU Water Framework Directive (WFD). The WFD provides a common approach across Europe to address many of the entrenched problems in water policy and to engage stake-holders during the planning process.

One interesting example of the possible uses of ICTs in participatory planning concerning with environmental issues has been developed in the context of the Hérault river basin water management plan, where a multi-media ICT based platform to inform the debate on water resource management has been developed.

The Hérault river basin is a small Mediterranean river basin, covering an area of approximately 2500 square kilometres. In 2003 the local authorities have initiated a formal concertation where the key stakeholders interacted to design a river basin water management plan. Parallel with the preparation of the concertation process, a ICT-based platform was developed to address different types of audiences (citizen, farmers, representative of the industrial sector and of representatives of public bodies) both in terms of visualisation and contents.

The platform consists of several modules witch can be accessed by the users through an interactive multimedia interface.

The first module introduces the user to the region of concern. Then, through a menu, the user can access to several types of base information such as the uses of water and hydro system services, georeferenced spatial information, governance issues, relevant social actors involved in the planning process, etc.

Through a second module, the user can explore different scenarios by generating them through a scenario generator of plausible futures. Each scenario is the result of different driver factors that can be selected by the user (e.g. regulation or constraints imposed on agricultural uses, further exploitation of the aquifer, etc). Once the user has generate one or more scenario, it can assess each scenario, selecting between several performance indicators.

The definition of the driver's factor as well as the criteria to asses different options has been defined trough a set of 70 semi-structured interviews with representatives from various categories of users and with municipalities, environmental protection associations, actors involved in tourism activities and civil servants from various government agencies. The information collected during these interview has been also used to the identification of a number of conflicts between stakeholders.

After these interview, the platform has made accessible by a number of stakeholders involved in the planning process that explored its potentiality individually.

According to the users of the platform, the tool was likely to have a strong impact on potential users and influenced the outcome of the debate. The stakeholders found that the tool have the potential to improve inclusiveness by providing a shared ground where exchange of knowledge is possible (Pereira et al., 2003).

THE APPLICATION OF A PUBLIC PARTICIPATION GEOGRAPHIC INFORMATION SYSTEM IN THE CONTEXT OF THE HELSINKI MASTER PLAN

Citizens' knowledge provides a rich source of updated information that helps planners to improve the quality of the analysis, leading to different solutions than when using traditional forms of data (Bugs et al., 2010). In the last decade, advances in Geographic Information Systems (GIS) and Web 2.0 technologies provide new ways of incorporating local knowledge into urban planning using online GIS tools. The term "PPGIS" (public participation geographic information systems) refers to the possibility of engaging local communities is the public hearing by creating sophisticated Web applications that strengthen social interactions based on comments on online maps (Gordon et al., 2011).

An interesting application of PPGIS can be found in the Helsinki city master Plan. Finland has a long democratic tradition involving citizens in the plan making process. The city of Helsinki is currently drawing a new City plan, which will guide the development of Finland's capital until 2050. The City plan, named Vision 2050, is founded on the idea of Helsinki will be an urban, rapidly growing rail transport network city with expanding central areas coupled with other developing centres. In 2012 the Helsinki City Board launched a programme to promote local civic participation with the help of democracy pilot projects. The pilot projects were intended to increase resident participation and resident opportunities to influence City decision making. People can participate in the preparation of the City plan in various ways throughout the planning process: by participating in information sessions and in discussions on the City plan website, contacting the planners or leaving an opinion during the official display periods.

The City Planning Department has also opened a map-based survey to chart the views of residents to support the development of the new city plan. The web-based survey has been developed by Mapita, a Finnish company spawned from the research group Land Use Planning and Urban Studies of the Aalto university, working closely with City Planning Department. The web survey allows Helsinki residents to express their thoughts on the city's future. The survey attracted some 4,700 respondents and allowed respondents to mark locations on the map to indicate where they would like to see residential development and where the city's key recreational areas should be located. Respondents to the map survey also indicated many locations where new or improved transport connections are needed, approximately 4,000 locations in total. The survey was available in three languages: English, Swedish and Finnish. It produced nearly 33,000 notifications about possible sites for new construction, valuable recreational areas and transport connections that residents are in dire need of. Due to this project, Helsinki became the first major world city to use PPGIS to inform its comprehensive city planning process. The map-based questionnaire also provided city planners with information on which proposals garnered more wide-spread support. The city of Helsinki published all the survey data online and organized a competition for software developers with the aim of developing new and interesting methods for utilizing the data collected during the survey.

The Helsinki example demonstrates how PPGIS could be a cost-effective tool for exploiting the local knowledge as well as enhancing effective participation and communication among experts and non-experts via an easy-to-use and interactive exchange platform.

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05

SMART COMMUNITIES BETWEEN GOVERNANCE AND SOCIAL PARTICIPATION

REVIEW PAGES: NEWS AND EVENTS

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In this number
URBAN SMARTNESS

One of the most important aspects in the study of smart city is that of the human component. Thanks to the diffusion of Information and Communication Technology, citizens will have the opportunity to participate actively in decision-making processes of local development. In fact, there are many solutions or tools that offer both citizens to be able to express their needs and those who are in charge of the urban development plan to be able to know the socio-economic and environmental needs of those who live in the area. So the solutions related to smart city can facilitate communication and the exchange of information between the various actors that contribute to urban development. In addition to the positive effects on the process of urban planning ICT has also enabled an improvement in the economic and social conditions of the inhabitants. In fact, thanks to the development of these new technological networks have made it much faster and economic interactions between the different actors in the area, developing new types of economic activities.
In this issue have been selected some international events that will take place in the coming months and that highlight the importance of paying particular attention to the analysis of social phenomena in the development of new solutions and in the application of technologies related to smart city planning.

SMART SYSTEM PLATFORM DEVELOPMENT FOR CITY AND SOCIETY, GOESMART 2014

Where: Bandung – Indonesia
When: 24 - 25 September 2014
http://iciss2014.stei.itb.ac.id/index.html

The School of Electrical Engineering and Informatics Institute Technology Bandung (Indonesia) and Institute of Electrical and Electronics Engineers (IEEE) organize this international conference to put in evidence the advancement of smart system research and study on Information and Communication Technology (ICT).
The development of ICT is now able to connect, monitor and control various human resources, objects, the humans and objects and with other natural components. These new solutions allow an improvement process more effective, easy, inexpensive and efficient. The main topics that are covered in this conference are the

concept of smart village, smart city, smart community, smart transportation, smart education, smart health, etc., in order to improve the quality of life in rural, urban and community.

SMART CITY EXHIBITION

Where: BOLOGNA – ITALY
When: 22 - 24 October 2014
http://www.smartcityexhibition.it/

The SMART City Exhibition is the result of a partnership between FORUM PA and Bologna Fiere whose third edition will be held in Bologna. The event offers a new vision of the concept of the city as a set of information flows and networks of relations and communications, physical and digital, characterized by the ability to create social capital, well-being for individuals, better quality of life. Also novelty is the formula, centered on participatory and collaborative moments of work on the presentation of large international scenarios, on the construction of new shared culture that helps the transform the country with the project-a series of initiatives are not always coordinated. The main objectives of the SMART City Exhibition are to highlight the basic steps for a strategic and holistic urban ecosystem, offer moments of awareness and training for political and administrative leadership to confronting on the new models of procurement and public-private partnership. The event is organized to promote dialogue between executives, political and administrative ministries, the academia and research, individual professionals, technicians working in all fields that connect to urban living, representatives of technology companies, small and medium-sized enterprises, innovative young "makers" creative, citizenship and organized individuals interested in pursuing policies to improve the welfare and quality of life in cities

THE FIRST INTERNATIONAL CONFERENCE ON IOT IN URBAN SPACE

Where: ROMA – ITALY
When: 27 - 28 October 2014
http://urbaniot.org/2014/show/home

The First International Conference on Internet of Things (IoT) in Urban Space (Urb-IoT 2014) is a new conference that aims to explore the dynamics with the scope of the IoT and the new science of cities. The growth creates of urban population an unprecedented urge for understanding cities to enable planning for the future societal, economical and environmental well being of their citizens. The increasing deployments of Internet of Thing (IoT) technologies and the rise of so-called “Sensored Cities” are opening up new avenues of research opportunities towards that future. The urban spaces are the man made microcosms where a number of entities interact with each other to offer citizens a variety of services, for instance, buildings and infrastructure, transportation, utility, public safety, healthcare, education. The conference is uprising to technology experts, researchers, designers, urban planners, architects in academia and industry, and promises to offer a perfect forum to share knowledge, experiences, and best practices primarily in the area of Citizen Awareness and Engagement, Urban Analytics and IoT Applications and Services in Urban Context. The event is endorsed by the European Alliance for Innovation, a leading community-based organization devoted to the advancement of innovation in the field of ICT and will be co-located with the IOT360 Summit.

SOCIAL INNOVATION/SMART CITY WEEK – INTERNATIONAL CONFERENCE

Where: YOKOHAMA – JAPAN
When: 29 - 31 October 2014
http://expo.nikkeibp.co.jp/social/english/

The three days of Conference and Exhibition at Pacifico Yokohama are organized by Nikkei Business Publications (Nikkei BP). The conference is designed to provide a seat for stakeholders in Japan and other countries working to address social issues to forget new partnerships with corporations and to identify possible new technologies and solutions that can facilitate resolution. In this edition are expected some 50,000 participants with 3000 plus visitors from 80 countries. In particular the representatives of emerging nations of Asia and Africa, where business opportunities are ample, come to this event to seek out the knowledge, technology, and solutions of Japanese corporations and local governments.
The conference was divided into several thematic events that aim to deal with the different aspects related to the use of new technologies for improving the quality of life, which are:

- Smart City Week, a vision for society and the role of cities;
- Energy security / management, optimal solutions to securing independent energy sources;
- Infrastructure renovation, reducing the impact of disasters and facilitating recovery through prediction and collaboration;
- Disaster prevention, technology-powered medicine, health, and nursing care for the future;
- Impact of technology, new means of forging our future.

OPEN WORLD FORUM

Where: Paris – France
When: 30 October - 1 November 2014
http://www.openworldforum.paris

The Open World Forum is the first European summit to gather political representatives, decision-makers and experts, in order to debate the technological, economic and social impacts that the Free and Open-Source technologies bring to market. The forum is now organized annually in Paris, with more than 200 speakers coming from 40 countries and a global audience that was 2200-people strong in 2013. The Open Source Forum The Open World Forum is held in partnership with all the major international communities and the main French Open Software organizations, with the support of local government. The event bringing together decisions-makers, developers and users from all over the world to cross-fertilize open technological, business and social initiatives, to shape the digital future. The main objective will be to illustrate the major role of Openness (Free and Open-Source Software, Open Data, Open Hardware, Open Design, etc.) in the digital society, understand and leverage the key subjects that are transforming the open source ecosystem (Web, mobile phones and tablets, Big Data, cloud infrastructure, software quality, emerging languages and platforms) and the advantages to use the Free and Open Source software in the day-to-day life

SMART CITY EXPO WORLD CONGRESS 2014

Where: Barcelona - Spain
When: 18 - 20 November 2014
http://www.smartcityexpo.com/

The Smart City Expo World Congress (SCEWC) is the leading event where representatives of cities, institutions, universities and industry meet together to showcase and discuss the best ideas and solutions for the smart cities of the future.
Barcelona's SCEWC 2014 will continue to investigate the most innovative developments transforming our cities, happening in the worlds of technology, energy, governance, sustainability and mobility while always maintaining the society and the citizens at the centre of the debate. The Smart City Expo World Congress is a meeting point for companies, public administration, entrepreneurs and research centres to show, learn, share, network and gather inspiration to support the development of cities of the future. The topics of the conference are Smart Society, Technology, Governance, Energy, Mobility and Sustainable City.

3RD ANNUAL WORLD INTELLIGENT CITIES SUMMIT 2014

Where: Istanbul – Turkey
When: 10 - 11 December 2014
http://www.wicsummit.com/

The Third Annual World Intelligent Cities Summit and Exhibition is one of the most important forum on future development of cities and regions will require the intelligent integration of communications technology, coupled with changing behaviour in how use this technology, to make our cities and regions smarter and more energy efficient. The main research topics that will be discussed during the conference are the drive innovation, boost efficiency, leverage data, upgrade service delivery and achieve economic prosperity.
This forum is an international platform for the transfer of knowledge, allowing leaders of municipalities to learn from the pioneers of smart city concepts and technologies.

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